LELAND STANFORD JUNIOR UNIVERSITY

REGISTER FOR 1913-14

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LELAND STANFORD JUNIOR UNIVERSITY

TWENTY-THIRD
ANNUAL REGISTER
1913-14

"The beneficence of the Creator towards man on earth, and the possibilities of humanity, are one and the same."—LELAND STANFORD.

"A generous education is the birthright of every man and woman in America."

STANFORD UNIVERSITY, CALIFORNIA
PUBLISHED BY THE UNIVERSITY
MAY, 1914

Stanford University
Press

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OFFICE DIRECTORY

[The rooms in the Inner Quadrangle are numbered consecutively, beginning at the left of the main entrance, ten numbers being allotted to each building. In the Outer Quadrangle forty numbers are allotted to each of the larger buildings and ten numbers to each one-story building, beginning with the Assembly Hall and number 120. The Engineering buildings south of the Quadrangles begin with number 500. The Chemistry building is on the west avenue between the Quadrangles and the Museum. Anatomy and Bacteriology and Immunity are in the Museum building.]

The office of the President is room 112.

The office of the Registrar is room 116.

The office of the Academic Secretary is room 113.

The office of the Appointment Secretary is room 118.

The office of the Medical Adviser to Women is room 94.

The office of the Dean of Women is room 203.

The office of the Student Adviser is room 265.

The office of the Treasurer is room 250.

The office of the Committee on Public Health is room 94.

The various Departmental offices are given in the Schedule and in the Directory of Officers and Students.

The University Post and Telephone Office is *Stanford University, California.*

The University Railway Station and Telegraph and Express Office is *Palo Alto, California.*

Requests for *Registers*, blanks and other printed matter, and inquiries regarding terms of admission, advanced standing, etc., should be addressed to The Registrar, *Stanford University, California.*

UNIVERSITY CALENDAR

1913

Sept. 1-3	Monday-Wednesday	Registration of Students.
Sept. 4	Thursday	Instruction begins in all Departments of the University.
Nov. 27	Thursday	Thanksgiving Recess.
Nov. 30	Sunday	
Dec. 13-19	Saturday-Friday	End-Semester Examinations at Stanford University.
Dec. 19	Friday	Work closes in the Department of Medicine in San Francisco.

1914

Jan. 5-6	Monday-Tuesday	Registration of Students.
Jan. 7	Wednesday	Instruction begins in all departments of the University.
Feb. 22	Sunday	Washington's Birthday.
March 9	Monday	Founders' Day.
March 28	Saturday	Mid-Semester Recess.
April 5	Sunday	
May 7-13	Thursday-Wednesday	End-Semester Examinations at the University.
May 14	Thursday	Birthday of Leland Stanford, Junior; Work closes in the Department of Medicine in San Francisco.
May 17	Sunday	Baccalaureate Sunday.
May 18	Monday	Commencement.

Aug. 31	Monday	Registration of Graduate Students.
Sept. 1-2	Tuesday-Wednesday	Registration of Undergraduates.
Sept. 3	Thursday	Instruction begins.
Dec. 12-18	Saturday-Friday	End-Semester Examinations.

ADMINISTRATIVE OFFICERS

THE BOARD OF TRUSTEES

[The figures indicate year of beginning of service.]

FRANK BARTOW ANDERSON, 1912, California and Sansome, San Francisco
WILLIAM BABCOCK, 1905, San Rafael
HORACE DAVIS, LL. D., 1885, 1800 Broadway, San Francisco
CHARLES PARMELEE EELLS, A. B., 1905, 2415 Pierce St., San Francisco
JOSEPH DONOHOE GRANT, A. B., 1891, 2200 Broadway, San Francisco
HERBERT CLARK HOOVER, A. B., 1912, 604 Mills Bldg., San Francisco
TIMOTHY HOPKINS, 1885, (Nevada Bank Bldg., S. F.), Menlo Park
CHARLES GARDNER LATHROP, 1893, Stanford University
SAMUEL FRANKLIN LEIB, LL. B., 1891, First Nat. Bank Bldg., San Jose
FRANK MILLER, 1893, 28 Hillcrest Rd., Berkeley
WILLIAM MAYO NEWHALL, B. S., 1912, 260 California St., San Francisco
JAMES LEROY NICKEL, 1909, Merchants Exchange Bldg., San Francisco
LEON SLOSS, 1891, 310 Sansome St., San Francisco
THOMAS WELTON STANFORD, 1893, 142 Russell St., Melbourne, Australia
VANDERLYNN STOW, A. B., 1906, 2900 Broadway, San Francisco

OFFICERS OF THE BOARD

President: TIMOTHY HOPKINS.
Vice-President: CHARLES PARMELEE EELLS.
Treasurer: CHARLES GARDNER LATHROP.
Business Manager and Assistant Treasurer: VANDERLYNN STOW.
Secretary: WILLIAM EMERY CALDWELL (409-411 Nevada Bank Bldg., San Francisco).

STANDING COMMITTEES OF THE BOARD

Finance: SLOSS, LATHROP, STOW, MILLER, LEIB, NICKEL, ANDERSON, NEWHALL.
University: DAVIS, EELLS, GRANT, BABCOCK, HOOVER.
Library: EELLS, DAVIS, STOW, ANDERSON.
Rules: DAVIS, LEIB, MILLER.
Museum: LATHROP, GRANT, BABCOCK, STANFORD.
Memorial Church: LATHROP, SLOSS, LEIB, STANFORD.
Grounds: GRANT, HOOVER, LATHROP, NEWHALL, HOPKINS.

THE FACULTY

[Office and office hours in parentheses; MTWThF unless otherwise specified.]

Chancellor: David Starr Jordan. (Absent on leave.)
President: John Casper Branner. (332, 10-12; 111, 3-5.)
Vice-President: John Maxson Stillman. (44c, 2-4:30.)
Registrar: Orrin Leslie Elliott. (117, 8:15-12:15, 1:30-4:30, S 9-12.)
Librarian: George Thomas Clark. (Library, 8:30-12:30, 1:30-4:30.)
Academic Secretary: George Archibald Clark. (112, 9-12, 3-5.)
Dean of Women: Evelyn Wight Allan. (203, MTWF 9:15, 11:15, Th 3-6 at 31 Salvatierra.)
Student Adviser: Arthur Warren Ambrose. (265, 11:15-12:15, MWF 8:15-9:15.)
Chaplain: David Charles Gardner. (Vestry, TWThF 9-12.)
Appointment Secretary: Susan Brown Bristol. (118, 9-12, 1:30-4:30.)
Medical Adviser for Women: Clelia Duel Mosher. (94, 1-2.)

DEPARTMENT EXECUTIVES

[Office in parentheses.]

Anatomy: Arthur William Meyer. (7a.)
Bacteriology and Immunity: Wilfred Hamilton Manwaring. (15b)
Botany: Douglas Houghton Campbell. (468.)
Chemistry: John Maxson Stillman. (44c.)
Civil Engineering: Charles David Marx. (271.)
Economics: Murray Shipley Wildman. (223.)
Education: Ellwood Patterson Cubberley. (51.)
Electrical Engineering: Harris Joseph Ryan. (505.)
English Literature and Rhetoric: William Herbert Carruth. (209.)
English Philology: Ewald Flügel. (212.)
Entomology and Bionomics: Vernon Lyman Kellogg. (431.)
Geology and Mining: John Casper Branner. (332.)
Germanic Languages: George Hempl. (32.)
Graphic Art: Arthur Bridgman Clark.* (95.)
Greek: Ernest Whitney Martin.* (25.)
History: Edward Benjamin Krehbiel. (230.)
Latin: Henry Rushton Fairclough. (22.)
Law: Frederic Campbell Woodward. (3.)
Mathematics: Robert Edgar Allardice. (70.)
Applied Mathematics: Leander Miller Hoskins. (275.)
Mechanical Engineering: William Frederick Durand. (260.)

Medicine: Ray Lyman Wilbur. (San Francisco.)
- Anatomy: Arthur William Meyer. (7a.)
- Bacteriology and Immunity: WilfredHamiltonManwaring. (15b.)
- Chemistry: John Maxson Stillman. (44c.)
- Hygiene and Public Health: William Freeman Snow.
- Medicine: Ray Lyman Wilbur. (San Francisco.)
- Obstetrics and Gynecology: Alfred Baker Spalding. (San Francisco.)
- Pathology: William Ophüls. (San Francisco.)
- Pharmacology: Albert Cornelius Crawford. (San Francisco.)
- Physiology: Oliver Peebles Jenkins. (482.)
- Surgery: Stanley Stillman. (San Francisco.)

Philosophy: George Holland Sabine.* (419.)
Physics: Fernando Sanford. (382.)
Physiology and Histology: Oliver Peebles Jenkins. (482.)
Psychology: Frank Angell. (399.)
Romanic Languages: Oliver Martin Johnston. (242.)
Zoology: Charles Henry Gilbert. (443.)

*Acting.

STANDING COMMITTEES OF THE ACADEMIC COUNCIL

[The first named member in each Committee is Chairman.]

ADVISORY BOARD

Hoskins, Durand, Fairclough, Gilbert, Green, Kellogg, C. D. Marx, Sanford (Secretary), Woodward.

ADMINISTRATIVE COMMITTEES

1. Student Affairs: A. B. Clark, Elliott, Fish, Huston, Terman.
2. Athletics: Angell, Folsom, Long, Searles, Wing.
3. Public Exercises: Treat, Carruth, Gray, Peirce, Seward.
4. Literary Contests: Bassett, Foster, Huston, P. A. Martin.
5. Public Health: Mitchell, Gilbert, Long, Meyer, Stoltenberg.
6. Delinquent Scholarship: Gilbert, Cathcart, Elliott, Hoskins, Johnston, Whitaker.
7. Public Entertainments: S. W. Young, C. D. Marx, G. H. Marx, Peirce, Searles.
8. Vocational Guidance: Sabine, Brown, Hall, Huston, G. H. Marx,

ACADEMIC COMMITTEES

1. Executive Committee: Branner, Stillman, Cathcart, Clark, Elliott, Fairclough, Foster, Green, Heath, G. H. Marx, Meyer, Swain, Woodward.
2. Admission and Advanced Standing: Elliott, Bentley, Eckart, E. W. Martin, Searles.
3. Registration: Elliott, Moreno, Rendtorff, E. W. Smith, Stoltenberg.
4. Graduation: Elliott, Abrams, Jenkins, Krehbiel, Wildman.
5. Schedule and Examinations: Elliott, Doane, Elmore, McFarland, Ponzer.
6. Graduate Study: Franklin, Adams, Durand, Fairclough, Hempl, Hoskins, Kellogg, Meyer, Peirce, Sabine, Stillman.
7. Library: Stillman, Cooper, Heath, Ryan, Sabine.
8. University Publications: Kellogg, G. T. Clark, Fairclough, L. J. Martin, Townley.
9. Recommendation of Teachers: Bentley, Cooper, Drew, Elliott, Terman.

FACULTY AND OTHER OFFICERS

[Name; office; office hour; telephone; title; residence; post-office. Post-office in all cases *Stanford University* except where university residence is followed by initial letter of town ('p' indicates *Palo Alto* post-office; 'Mayfield-m,' *Mayfield* post-office; etc.). Street address *Palo Alto* or *Campus* unless otherwise named.

'Daily' does not include Saturday. Office hours are MTWThF unless otherwise noted. The asterisk indicates 'absent on leave for the year'; the dagger (†) marks the names of men who are married.

The superior number [1] indicates service for first semester only; [2] for second semester only.]

†ABRAMS, LEROY, (465, 9-12, 2-4) Local 127

Associate Professor of Botany, 23 Salvatierra

A. B., Stanford, 1899, A. M., 1902; Ph. D., Columbia, 1910. Acting Professor of Botany, University of Idaho, 1899-1900; Assistant in Botany, Leland Stanford Junior University, 1900-02, Instructor, 1902-04; Fellow in Botany, Columbia University, 1904-05; Assistant Curator, Division of Plants, United States National Museum, 1905-06. At Stanford, 1900-04, and since 1906.

[1]ADAMS, EPHRAIM DOUGLASS,

Professor of History, Washington, D. C.

A. B., Michigan, 1887, Ph. D., 1890. Principal of High School, McGregor (Ia.), 1887; Principal of High School, Saginaw (Mich.), 1889; Special Agent in Charge of Street Railways, Eleventh Census, Washington (D. C.), 1890; Assistant Professor and afterward Professor of European History, University of Kansas, 1891-1902; Instructor in History, University of California, Summer Session, 1910. At Stanford, since 1902.

†ADDIS, THOMAS, SF, Pacific 6496

Associate Professor of Medicine, 51 First Ave., SF-sf

M. B. Ch. B., Edinburgh, 1905, M. D. and M. R. C. P., 1908. Clinical Assistant, Medical Out Patient Department, Royal Infirmary of Edinburgh, 1908, 1911; Medical Registrar, Leith Hospital, 1911; Carnegie Research Scholar and Fellow, 1908-11; Director of the Clinical Laboratory, Lane Hospital, since 1911. At Stanford, since 1911.

†ALDERSON, HARRY EVERETT, (240 Stockton, S. F.) SF, Park 461

Clinical Associate Professor of Medicine, 937 Ashbury, SF-sf

M. D., California, 1900; Assistant in Skin Diseases, Medical Department of University of California, 1906-12; Professor of Art Anatomy, California School of Design, 1906-12; Chief of Dermatological Clinic, San Francisco Fruit and Flower Mission. At Stanford, since 1912.

ALLAN, EVELYN WIGHT, (203, MTWF 9:15, 11:15, Th 31 Salv., 3-6)

Dean of Women, Local 56, 31 Salvatierra

B. S., St. Lawrence University, 1891; A. B., Stanford, 1896. Teacher in Montclair (N. J.), High School, 1892-95; Teacher of English, Jersey

City High School, 1897-99; Graduate Student at Columbia University, 1907; Teacher of English, Manual Training High School, Brooklyn (N. Y.), 1899-1908. At Stanford, since 1908.

ALLARDICE, ROBERT EDGAR, (70, MWF 10:15-11:15) Local 36
Professor of Mathematics, 19 Salvatierra

A. M., Edinburgh, 1882. Baxter Scholar in Mathematics, University of Edinburgh, 1882-83, Drummond Scholar in Mathematics, 1883-84; Assistant Professor of Mathematics, University of Edinburgh, 1883-92. At Stanford, since 1892.

*†ALLEN, CLIFFORD GILMORE,
Associate Professor of Romanic Languages, In Europe

A. B., Boston, 1900; A. M., Stanford, 1903; Docteur de l'Université de Paris, 1906. Student, University of Paris, 1903-04; Fellow of Boston University and Student at Universities of Paris and Madrid, 1904-05. At Stanford, since 1901.

[3]AMBROSE, ARTHUR WARREN, (265, 11:15-12:15, MWF 8:15-9:15)
Student Adviser, Local 13, Encina

A. B., Stanford, 1914.

†ANDERSON, MELVILLE BEST,
Professor of English Literature, Emeritus. In Italy

A. M., Butler University, 1877; LL. D., Aberdeen, 1906. Professor of Modern Languages, Butler University, 1877-80; Professor of English Literature, Knox College, 1881-86; Professor of Literature and History, Purdue University, 1886-87; Professor of the English Language and Literature, University of Iowa, 1887-91. At Stanford, since 1891, Emeritus since 1910.

†ANGELL, FRANK, (399, TTh 2-3) PA 87
Professor of Psychology, 1200 Bryant

B. S., Vermont, 1878; Ph. D., Leipzig, 1891; L. H. D., Vermont, 1892. Teacher in Washington (D. C.) High School, 1880-87; Assistant Professor of Psychology, Cornell University, 1891-92. At Stanford, since 1892.

*†BARKAN, ADOLPH,
Professor of Structure and Diseases of the Eye, Ear and Larynx, Emeritus. 135 Stockton, SF-sf

M. D., University of Vienna, 1866; LL. D., University of Glasgow, 1901. Professor of Ophthalmology and Otology, Medical Department, University of the Pacific, 1872-82, Cooper Medical College, 1882-1912; Eye and Ear Surgeon, Lane Hospital, 1895-1912. At Stanford, since 1909, Emeritus since 1911.

†BASSETT, LEE EMERSON, (212, MWF 11:15) Local 80
Associate Professor of English, 9 Cabrillo

A. B., Stanford, 1901. Graduate, Cumnock School of Oratory, Los Angeles, 1898; Instructor in Public Speaking, University of Southern California, 1898-99; Student, School of Expression, Boston, 1901; Student, Department of Literature, University of Chicago, summer, 1904; Student at Oxford, 1907-08. At Stanford, since 1901.

†Bentley, Rufus Clarence, (52, 9:15) Local 61
Associate Professor of Education, 12 Alvarado
A. B., Nebraska, 1894, A. M., 1896. Assistant in Psychology, University of Nebraska, 1893-96; Principal of Schools, Shelton (Neb.), 1896-97; Principal of High School, Martinez (Cal.), 1897-98; Principal of High School and Supervising Principal of Schools, San Rafael (Cal.), 1898-1900; Fellow, Columbia University, 1900-01; Fellow, Clark University, 1901-03; Dean of Clark College, 1902-09, Professor of Latin, 1902-04, Professor of Pedagogy, 1904-09. At Stanford, since 1910.

Berger, Alice Ruth, (24c, 1:30-4:30) Local 116-R1
Acting Instructor in Chemistry, 73 No. 6th, SJ-sj
A. B., Stanford, 1908, A. M., 1913. At Stanford, since 1911.

'†Bingham, Joseph Walter,
Professor of Law, In Europe
A. B., Chicago, 1902, J. D., 1904. In practice of law, Chicago, 1904-05; Acting Assistant Professor of Law, Cornell University, 1905-07. At Stanford, since 1907.

†Blaisdell, Frank Ellsworth, SF, Pacific 3482
Assistant Professor of Surgery, 1520 Lake, SF-sf
M. D., Cooper Medical College, 1889. Demonstrator of Anatomy, Cooper Medical College, 1903, Instructor in Biology and Embryology, 1900-09, in Histology, 1907-09, Assistant Professor of Anatomy, 1904-05, Associate Professor, 1907-12. At Stanford, since 1910.

'Blichfeldt, Hans Frederick,
Professor of Mathematics, In Europe
A. B., Stanford, 1896; Ph. D., Leipzig, 1898. At Stanford, since 1898.

Boardman, Walter Whitney, (Lane Hosp., 9-4) SF, Fillmore 2192
Assistant Professor of Medicine, 2200 Webster SF-sf
M. D., Cooper Medical College, 1909. Clinical Instructor in Medicine, University of California, 1906; Assistant in Phipps Dispensary, Johns Hopkins Hospital, 1910, Assistant in Actinography and Externe in Gynecology, 1911; Director of Actinography, Lane Hospital, 1912. At Stanford, since 1912.

†Boezinger, Bruno, (34, MWF 10:15) PA 196
Assistant Professor of German, 176 Bryant-p
A. B., Forth Worth University, 1894, A. M., 1895; Ph. D., Stanford, 1910. Instructor in German, North Texas Normal School, 1895-98; Principal, German Department, San Antonio (Texas) H. S., 1899-1906; Instructor in German, Summer School, University of Texas, 1896. At Stanford, since 1906.

†Bohart, George Shambaugh, (5c, 1:30-4:30) PA 717X
Instructor in Chemistry, 856 Middlefield-p
A. B., Stanford, 1911, A. M., 1912. At Stanford, since 1911.

†BRANNER, JOHN CASPER, (332, 10-12; 111, 3-5) Local 10
President, and Professor of Geology, 13 Alvarado
B. S., Cornell, 1882; Ph. D., Indiana, 1885; LL. D., Arkansas, 1897, Maryville College, 1909. Assistant Geologist, Imperial Geological Survey of Brazil, 1875-78; Special Botanist in South America, 1880-81; Special Agent of the U. S. Department of Agriculture for Investigating Cotton and the Insects affecting it in Brazil, 1882-83; Topographical Geologist of the Geological Survey of Pennsylvania, Anthracite District, 1883-85; Professor of Geology, Indiana University, 1885-91; State Geologist of Arkansas, 1887-92; President Geological Society of America, 1904; Member California Earthquake Investigation Commission, 1906-07; Special Assistant, Geological Survey of Brazil, 1907-08; Professor of Geology, Leland Stanford Junior University, since 1891, Vice-President, 1898-1913, President, since 1913. At Stanford, since 1891.

*†BRIGGS, WILLIAM DINSMORE,
Assistant Professor of English, In Europe
A. B., Stanford, 1896; A. M., Harvard, 1899, Ph. D., 1900. Student, Johns Hopkins University, 1896-97; Instructor in English and German, University of Vermont, 1900-01; Instructor in English, Western Reserve University, 1901-06. At Stanford, since 1906.

BRISTOL, SUSAN BROWN, (118, 8:15-12; 1:30-4:30, S, 9-12) PA 709X
Appointment Secretary, 1155 Ramona
A. B., Stanford, 1897. At Stanford, since 1900.

†BRODRICK, RICHARD G., SF., Fillmore 1895
Assistant Clinical Professor of Hygiene and Public Health,
1085 Mission, SF-sf
M. D., Cooper Medical College, 1892. Assistant Surgeon, U. S. Navy, 1893, Naval Medical School, New York, 1893-94, Asiatic Station, 1894-98; Past Assistant Surgeon, U. S. Navy, 1896, retired from active duty, 1899; Student, Vienna, 1899-1902; Health Officer, San Francisco, 1908-10, 1912; Executive Secretary, San Francisco Association for the Study and Prevention of Tuberculosis, 1910-11. At Stanford, since 1912.

BROOKS, LUCIA MAY, Local 25
Chief of Serial Department, Library, 1 Salvatierra
Cataloguer, University of Minnesota Library, 1905-09.

*†BROOKS, VAN WYCK,
Instructor in English, In Europe
A. B., Harvard, 1907. At Stanford, since 1911.

†BROWN, JOSEPH GRANT, (385) PA 267
Assistant Professor of Physics, 1013 Ramona-p
A. B., Stanford, 1901, A. M., 1903. Graduate, Illinois State Normal University, 1894, Instructor in Physics and Chemistry, 1894-98. At Stanford, since 1900.

BUCKINGHAM, ELISABETH LEE, (211, M 1:30. WF 12:15) PA 456X
Acting Instructor in English, 609 Kingsley-p
A. B., Stanford, 1910. At Stanford, since 1911.

*Buehrer, Godfrey Carl,
Organist, In Europe

A. M., Rensselaer College (Indiana), 1896; Mus. Doc. Hon., Santa Clara College, 1907. Student Scola Cantorum, Paris, 1904-06; Instructor of Band, Orchestra, and Choir, Rensselaer College, 1892-96; Instructor, St. Joseph's College, San Jose, 1897-98; Organist, St. Joseph's Church, San Jose, 1899-1908; Professor of Music, Santa Clara College, 1901-05.

Burbridge, Harry Carleton, (381, 9-12) PA 861
Instructor in Physics, 912 Waverley-p

A. B., Stanford, 1908, Ph. D., 1913.

†Burlingame, Leonas Lancelot, (469, W 10:15-10:30) Local 144
Assistant Professor of Botany, 20 Alvarado

Ph. B., Ohio Northern University, 1901; A. B., Chicago, 1906, Ph. D., 1908. Instructor in Biology, Ohio Northern University, 1901-04; Fellow in Botany, University of Chicago, 1906, Assistant, 1906-08. At Stanford, since 1908.

Burrell, Florence Cotton,
Instructor in Roble Gymnasium, 328 Churchill-p

A. B., Stanford, 1910. At Stanford, since 1913.

Campbell, Clarence P., (260, 10:15-12:15; 503, 1:30-4:30)
Instructor in Mechanical Engineering, Encina

A. B., Stanford, 1913. At Stanford, since 1912.

Campbell, Douglas Houghton, (468, 9-12, 2-4) Local 36
Professor of Botany, 19 Salvatierra

Ph. M., Michigan, 1882, Ph. D., 1886. Teacher of Biology, Detroit High School, 1882-86; Student at Bonn, Tübingen, and Berlin, 1886-88; Professor of Botany, Indiana University, 1888-91. At Stanford, since 1891.

†Cannon, Henry Lewin, (230, 9:30) Local 46
Associate Professor of History, 19 Alvarado

A. B., Western Reserve, 1893; Ph. D., Pennsylvania, 1898. Student, Harvard University, 1893-94, Yale University, 1896-97; Fellow in European History, University of Pennsylvania, 1897-98; Instructor in History, University of Cincinnati, 1900-03. At Stanford, since 1903.

†Carruth, William Herbert, (209, 11:15) Local 1
Professor of Comparative Literature, Xazmin Hs., Serra Ave.

A. B., Kansas, 1880, A. M., 1883; A. M., Harvard, 1889, Ph. D., 1893. Student, Universities of Berlin and Munich, 1885-86; Morgan Fellow at Harvard University, 1888-89; Instructor in English, University of Kansas, 1879-80, Assistant Professor of Modern Languages, 1880-82, Professor, 1882-89, Professor of German, 1889-1913, Vice-President, 1901-13; Professor of German Literature, University of Wisconsin, Summer Session, 1907; President, Central Division American Modern Language Association, 1894-97. At Stanford, since 1913.

†CATHCART, ARTHUR MARTIN, (1, TTh 10:15-11:15) PA 197
Professor of Law, 1001 Ramona-p

A. B., Stanford, 1896. Student, Harvard University, 1896-97; Registered Office Clerk with Attorneys of Colorado Supreme Court, 1900-02; Attorney at Law, Colorado Springs (Colo.), 1903-04; Lecturer in Law, University of California, Summer Session, 1908; Professor of Law, University of Chicago, Summer Quarter, 1911. At Stanford, since 1904.

†CHARLES, SAMUEL WATSON, (Simkins Bldg., 9-12) PA 812L
Lecturer in Law, 251 Lincoln-p

A. B., Stanford, 1898.

†CHENEY, WILLIAM FITCH, (Shreve Bldg.) SF., Pacific 2573
Clinical Professor of Medicine, 210 Post, SF-sf

B. L., California, 1885; M. D., Cooper Medical College, 1889. Professor of Principles and Practice of Medicine, Cooper Medical College, 1898-1912. At Stanford, since 1909.

†CLARK, ARTHUR BRIDGMAN, (95, 3-3:30) Local 23
Associate Professor of Graphic Art, 4 Cabrillo

B. Ar., Syracuse, 1888, M. Ar., 1891. Director of Trade Schools and Instructor in Drawing, New York State Reformatory, Elmira (N. Y.), 1888-89; Instructor in Architecture, Syracuse University, 1889-92. At Stanford, since 1892.

†CLARK, GEORGE ARCHIBALD, (112, 9-12, 3-5) Local 24
Academic Secretary, 7 Alvarado

B. L., Minnesota, 1891, A. M., 1911. Secretary, U. S. Fur Seal Commission, 1896-98; Special Investigator, Bureau of Fisheries, Fur Seal Investigation on the Pribilof Islands, 1909, 1912. At Stanford, since 1891.

†CLARK, GEORGE THOMAS, (Lib., 8:30-12:30, 1:30-4:30) PA 1440-R3
Librarian, Menlo Heights

B. S., California, 1886. Assistant Librarian, University of California, 1886-87; Deputy State Librarian, California State Library, 1887-90, Classifier, 1890-94; Librarian, San Francisco Public Library, 1894-1907. At Stanford, since 1907.

†CLARK, JAMES CAMERON, (507, TWThF 2:30-4:30)
Assistant Professor of Electrical Engineering, 1010 Emerson-p

B. S., Iowa State College, 1907; M. E. E., Harvard, 1912; Engineering Apprentice Course, Westinghouse Electric & Manufacturing Company, 1907-09; Instructor in Electrical Engineering, Case School of Applied Science, 1909-11; Engineer on Electrolysis Surveys, U. S. Bureau of Standards, Washington (D. C.), summer, 1911.

†CLARK, WILLIAM REDWOOD PRICE, (Schroth Bldg.) SF., West 1827
Clinical Instructor in Medicine, 240 Stockton, SF-sf

M. D., Cooper Medical College, 1899. Assistant Visiting Physician, City and County Hospital, San Francisco, 1901-04; Instructor in Medicine, Cooper Medical College, 1905-11; Visiting Physician, Clinic of the San Francisco Association for the Study and Prevention of Tuberculosis, 1909-12; Visiting Physician, City and County Tuberculosis Hospital, San Francisco, 1911-12. At Stanford, since 1911.

†Clevenger, Galen Howell, (560, 2-4) PA 809
Associate Professor of Metallurgy, 381 Hawthorne-p

B. S., South Dakota School of Mines, 1901, E. M., 1908; A. M., Columbia, 1903; Engineer, Stanford, 1906. Superintendent Tailings Plant Operating Cyanide Process, Rapid City (S. D.), 1899-1901; Assayer and Chemist, Dakota Mining Co., Deadwood (S. D.), 1901-02; Research Metallurgist, National Smelting Co., Rapid City (S. D.), and Horseshoe Mining Co., Terry (S. D.), 1903-04; Special Assistant, U. S. Geological Survey, in charge of Electric Smelting Experiments at Portland (Or.), 1904-05; Consulting Metallurgical Engineer for companies operating in the United States, Mexico, and Central America; Special Study of Hydro-Metallurgical Methods in Mexico, 1906-09. At Stanford, 1904-06, and since 1909.

†Congdon, Edgar Davidson, (10a, 8-11) PA 438X
Assistant Professor of Anatomy, 219 Addison-p

A. B., Syracuse, 1901, A. M., 1902; Ph. D., Harvard, 1909. Austin Teaching Fellow in Zoology, Harvard University, 1906-09; Hooper Traveling Fellow in Zoology of Harvard University, at University of Zürich, 1909-10; Sheldon Traveling Fellow in Zoology of Harvard University, at Biologische Versuchs Anstalt and K. K. Institut für Radiumforschungen, Vienna, 1910-11; Instructor in Embryology, Cornell University Medical College, 1911-12. At Stanford, since 1912.

†Cooper, William Alpha, (35, 11:15) Local 66
Associate Professor of German, 35 Salvatierra

A. B., Marietta, 1892, A. M., 1897. Student, Universities of Bonn, Leipzig, and Paris, 1892-94; Instructor in German and French, Marietta College, 1895-99, Professor, 1899-1901. At Stanford, since 1901.

†Coover, John Edgar, (418, MWF 10:15-11:15) PA 403K
Fellow in Psychic Phenomena, 157 Bryant

A. B., Stanford, 1904, A. M., 1905, Ph. D., 1912.

Cowan, John Francis, (Medical Bldg., 2-5) SF., Fillmore 2192
Instructor in Surgery, 2101A Webster, SF-sf

A. B., Stanford, 1902. Assistant and Acting Instructor in Physiology, Leland Stanford Junior University, 1903-06; Student, Cornell University Medical School, 1907-10.

Cox, William Edward, (222, TWThF 9:15-10:15) Local 62
Acting Instructor in Economics, 21 Salvatierra

A. B., Texas, 1909, A. M., 1910.

†Crawford, Albert Cornelius, SF., Prospect 1069
Professor of Pharmacology, Leavenworth & Bush, SF-sf

M. D., College of Physicians and Surgeons, Baltimore, 1893. Student at Johns Hopkins University, 1887-90, 1891-94, 1903. Assistant in Pharmacology, Johns Hopkins Medical School, 1894-1900; Pharmacologist, Bureau of Plant Industry, United States Department of Agriculture, 1904-08; Physiologist, Bureau of Animal Industry, United States Department of Agriculture, 1908-10. At Stanford, since 1910.

†Cross, Charles Norman, (504, 1:30-4:30) PA 525K

Assistant Professor of Mechanical Engineering, 340 Embarcadero-p

M. E., Cornell, 1906. Assistant Engineer, Long Island State Hospital, Brooklyn (N. Y.), 1905; Dynamo and Switchboard Attendant with the New York Edison Co., New York City, 1905-06; Electrician with the Lackawanna Steel Co., Buffalo (N. Y.), 1906. At Stanford, since 1906.

*†Cross, Ira Brown, PA 569X

Assistant Professor of Economics, 364 Kingsley-p

A. B., Wisconsin, 1905, A. M., 1906; Ph. D., Stanford, 1909. University Scholar in Economics, University of Wisconsin, 1905-06; Special Agent for Wisconsin Tax Commission, 1904-06; Special Agent for U. S. Immigration Commission, 1908-09. At Stanford, since 1906.

†Cubberley, Ellwood Patterson, (51,TTh10:15,W3-3:40) Local 19

Professor of Education, 12 Cabrillo

A. B., Indiana, 1891; A. M., Columbia, 1902, Ph. D., 1905. Instructor in Science, Ridgeville College (Ind.), 1891; Professor of Physical Science, Vincennes University (Ind.), 1891-93, President, 1893-96; Superintendent of City Schools, San Diego (Cal.), 1896-98; Honorary Fellow, Columbia University, 1901-02, 1904-05; Professor of Education, University of California, Summer Session, 1901, 1906, Columbia University, Summer Session, 1907, University of Chicago, Summer Quarter, 1910, Harvard University, second half-year, 1910-11. At Stanford, since 1898.

†Cutter, Lawrence Edminster, (274, MT 2-4, Th 9-12)

Assistant Professor of Mechanical Engineering, 627 Webster-p

A. B., Stanford, 1906. Machinist Apprentice and Journeyman, Union Iron Works, San Francisco, 1895-99, 1899-1902, 1903, 1904, Draftsman, 1905, 1906. At Stanford, since 1906.

†Dailey, Morris Elmer, San Jose 237

Lecturer in Education, San Jose-sj

A. M., Indiana, 1897; LL. D., Drake, 1901. Superintendent of City Schools, Fresno (Cal.), 1897-99; Vice-President and Teacher of History, San Jose State Normal School, 1899-1900, President, since 1900.

[2]†Davidson, Percy Erwin, (53, TTh 11:15) PA 1442-R1

Associate Professor of Education, Menlo Heights

A. B., Stanford, 1898; A. M., Harvard, 1905. Teacher, Grammar and High Schools, San Diego (Cal.), 1898-1900; Supervisor of History and English Teaching, San Francisco State Normal School, 1900-03; Assistant in Education, San Diego State Normal, 1903-04; Graduate Student, Teachers' College, Columbia University, 1905-07; Instructor in Logic and History of Education, New York Training School for Teachers, 1906-07. At Stanford, since 1907.

Davis, John Williams, (506, TWThF 2:30-4:30) PA 533X

Instructor in Electrical Engineering, 603 Waverley

M. E., Cornell, 1910. Draftsman, Lockwood, Greene & Co., Boston, 1910; Assistant in Electrical Engineering, Harvard University, 1910-11; Engineer, with Stone & Webster, 1911-12; Instructor in Mathematics and Physics, Vanderbilt University, 1912-13; with General Electric Co., Schenectady, summer, 1913. At Stanford, since 1913.

†Dickson, Ernest Charles, (Lane Hospital) SF., Fillmore 1271
Assistant Professor of Medicine, 2294 Broderick, SF-sf

A. B., Toronto, 1904, M. B., 1906. Assistant Demonstrator in Physiology, including Physiological Chemistry and Pharmacology, University of Toronto, 1904-05, George Brown Research Scholar, 1906-07; Assistant Demonstrator in Pathology, in charge of Clinical Laboratory, 1907; Assistant Resident Physician, Johns Hopkins Hospital, 1907-08; Instructor in Pathology and Bacteriology, Cooper Medical College, 1908-12. At Stanford, since 1911.

†Dietrich, Waldemar Fenn, (556, 1:30-4:30)
Acting Instructor in Mining, 608 Kingsley-p

A. B., Stanford, 1913.

†Doane, Rennie Wilbur, (430a, 8:30-12) PA 792L
Assistant Professor of Entomology, 527 Homer-p

A. B., Stanford, 1896. Assistant in Zoology and Botany, Washington State College, 1896-99; Assistant Professor of Zoology and Entomology, 1899-1901; Superintendent Fisheries Experiment Station, Keyport, (Wn.), 1901-03. At Stanford, since 1905.

†Downes, Carl Sawyer, (207b, MWF 10:15, TTh 11:15) PA 746
Acting Instructor in English, 807 Waverley-p

A. B., Harvard, 1907, A. M., 1908, Ph. D., 1912. Student at Oxford, 1907-08; Instructor in English, University of Texas, 1912. At Stanford, since 1913.

†Drew, Elmer Reginald, (384, MWF 9:45-10:15) PA 362
Assistant Professor of Physics, 1321 Waverley-p

B. S., California, 1888; Ph. D., Cornell, 1903. Student, University of Chicago, 1897-98, University of Berlin, 1903-05; Assistant in Physics, University of California, 1889-92, Instructor, 1892-1902. At Stanford, since 1905.

†Durand, William Frederick, (260, MTWTh 11:15-12:15) Local 76
Professor of Mechanical Engineering, 2 San Juan

Graduate U. S. Naval Academy, 1880; Ph. D., Lafayette, 1888. Engineer Corps, U. S. Navy, 1880-87; Special Duty as Assistant Professor of Mechanical Engineering, Lafayette College, 1883-85, Worcester Polytechnic Institute, 1887; Professor of Mechanics and Superintendent of Mechanical Department, Michigan State Agricultural and Mechanical College, 1887-91; Professor of Marine Engineering and Principal Graduate School of Naval Architecture and Marine Engineering, Cornell University, 1891-1904. At Stanford, since 1904.

†Eaton, Louis H., (84, 3-4) PA 857
Organist, 846 Bryant

†Eaves, James, (240 Stockton, 1:30-4) SF., Fillmore 3446
Clinical Instructor in Surgery, 2511 Octavia, SF-sf

M. B. Ch. B., Edinburgh, 1909. Assistant, Guy's Hospital, London, 1910-11. At Stanford, since 1911.

†Eckart, William Rankine, (503, 1:30-4:30) PA 231K

Professor of Mechanical Engineering, 1445 Bryant-p

M. E., Cornell, 1895. Mechanical Engineer, Siemens Halske Electric Co., Chicago, 1895-96; Construction Engineer, Allison Ranch Mine, Grass Valley (Cal.), 1896-98; Testing Work for Fraser & Chalmers, in Hawaii and Mexico, 1898-99; with W. R. Eckart, Consulting Engineer, Hydraulic Power Plants and Mining Work, 1899-1903, summers of 1904-08; Consulting Engineer, Geary St. P. & O. R. R., San Francisco, 1902-06. At Stanford, since 1903.

[2]†Elliott, Orrin Leslie, (117, 8:15-12:15, 1:30-4:30, S 9-12) Local 45

Registrar, 5 Cabrillo

Ph. B., Cornell, 1885, Ph. D., 1890. Fellow in History and Political Science, Cornell University, 1885-86, Instructor in English, 1886-91, Assistant Registrar and President's Secretary, 1890-91. At Stanford, since 1891.

†Elmore, Jefferson, (22, TTh 10:15-11:15) PA 251

Associate Professor of Latin, 1134 Emerson-p

A. B., Stanford, 1895, A. M., 1895, Ph. D., 1901. Principal of Merced County High School, 1895-97; Student, Universities of Bonn and Berlin, 1901-02. At Stanford, since 1898.

Eloesser, Leo, (739 Butler Bldg., 2-4) SF., Market 124

Assistant Professor of Surgery, 135 Stockton, SF-sf

B. S., University of California, 1900; State Medical Examination for German Empire, 1906; M. D., Heidelberg, 1907. Volunteer Assistant, Surgical Clinic, Heidelberg, 1906; Assistant, Cancer Institute, Heidelberg, 1906-07; Volunteer Assistant, Royal Surgical Clinic, Kiel, 1908-09; Volunteer Assistant, August Hospital, Berlin, 1909; Interne, City and County Hospital, San Francisco, 1909; Assistant in Surgery, University of California, 1910-12.

†Ely, Leonard Wheeler,

Associate Professor of Orthopedic Surgery, 301 Addison-p

A. B., Columbia, 1889; M. D., College of Physicians and Surgeons, Columbia University, 1895. At Stanford, since 1913.

†Espinosa, Aurelio Macedonio, (245, Th 11:15-12)

Assistant Professor of Romanic Languages, 543 Middlefield

A. B., Colorado, 1902, A. M., 1904; Ph. D., Chicago, 1909. Assistant in Romance Languages, University of Colorado, 1901-02, Instructor in Spanish, Summer Term, 1904, 1905; Professor of Romance Languages, University of New Mexico, 1902-10; Fellow in Romance Languages and Instructor in Spanish, University of Chicago, 1908-09; Membre fondateur et callabrateur special de la Société International de Dialectologie Romane, 1909; Membro correspondiente de la Sociedad de Folklore chileno, 1910. At Stanford, since 1910.

†Fairclough, Henry Rushton, (22, MWF 9:15-9:30) Local 52

Professor of Latin, 6 Alvarado

A. B., Toronto, 1883, A. M., 1886; Ph. D., Johns Hopkins, 1896. Fellow in Classics, University College, Toronto, 1883-84; Classical and English Master, Brockville High School, 1884-86; Graduate Scholar, Johns Hop-

kins University, 1886-87, Fellow, 1887; Lecturer in Greek and Ancient History, University College, Toronto, 1887-93; Professor of Latin, University of Wisconsin, Summer Session, 1906, Columbia University, Summer Session, 1908, University of Chicago, Summer Quarter, 1910; Professor of Latin, American School of Classical Studies, Rome, 1910-11. At Stanford, since 1893.

†FISH, JOHN CHARLES LOUNSBURY, (269, M 2-4, Th 10:15) PA 308
Professor of Railroad Engineering, 1101 Emerson
C. E., Cornell, 1892. Instructor in Civil Engineering, Cornell University, 1892-93; Division Engineer, Lake Shore and Michigan Southern Railway, 1906-08. At Stanford, since 1893.

*FISHER, WALTER KENRICK,
Assistant Professor of Zoology, In Europe
A. B., Stanford, 1901, A. M., 1903, Ph. D., 1906. Assistant, U. S. Biological Survey, 1897-1901, 1903; Assistant, U. S. Fish Commission, 1902. At Stanford, since 1902.

[1]†FITE, WARNER, (416, M 9:15-10:15) Local 103
Acting Professor of Philosophy, 4 Alvarado
A. B., Haverford, 1889; Ph. D., Pennsylvania, 1894. Student, Universities of Berlin and Munich, 1891-93; Instructor in Philosophy, Williams College, 1894-96, Dean of Faculty, 1895-97; Docent, Assistant, and Instructor in Philosophy, University of Chicago, 1897-1903; Instructor in Philosophy, University of Texas, 1903-06; Professor of Philosophy, Indiana University, since 1908; Lecturer in Philosophy, Harvard University, 1911-12.

†FLÜGEL, EWALD, (212, MTh 1:30) PA 568K
Professor of English Philology, 1153 Cowper
Ph. D., Leipzig, 1886. Student, Universities of Freiburg and Leipzig, 1882-88; Privat Docent, University of Leipzig, 1888-92. At Stanford, since 1892.

†FOLSOM, DAVID MORRILL, (556, 9:15-10:15, 2-4) PA 429
Associate Professor of Mining, 320 Embarcadero p
A. B., Stanford, 1902, Engineer, 1904. Student Columbia School of Mines, 1902-03; Engineer with Boston and Montana Consolidated Copper and Silver Mining Co., 1904-09. At Stanford, since 1910.

†FOSS, JOHN HARRISON, (269, MTThF 1:30) PA 583Y
Assistant Professor of Civil Engineering, 640 Waverley-p
A. B., Stanford, 1903. Assistant Engineer, Hamakua Ditch, Huelo, Maui (Hawaiian Islands), 1903-04, Engineer, 1904-05; Engineer, Maui Agricultural Co., Paia, Maui, 1905-07. At Stanford, since 1907.

†FOSTER, BENJAMIN OLIVER, (22, M 9:15)
Associate Professor of Latin, 521 Addison-p
A. B., Stanford, 1895; A. M., Harvard, 1897, Ph. D., 1899. Parker Fellow of Harvard University, studying in the American School of Classical Studies in Rome, 1899-1900; Acting Professor of Latin and Greek, State Normal College of Michigan, 1900-01; Instructor, University of California, Summer Session, 1908. At Stanford, since 1901.

†Franklin, Edward Curtis, (35c) PA 216
Professor of Chemistry, 1057 Ramona

B. S., Kansas, 1888, M. S., 1890; Ph. D., Johns Hopkins, 1894. Chemist to the Palo Alto Plantation and Sugar Factory, Donaldsonville (La.), 1888; Chemist to the Bella Vista Mining and Milling Co., Los Quemados, Costa Rica, 1897; Instructor in Chemistry, University of Kansas, 1888-90; Student, University of Berlin, 1890-91; Assistant in Chemistry, University of Kansas, 1891-93, Associate Professor, 1894-99, Professor of Physical Chemistry, 1899-1903; Member of the U. S. Assay Commision, 1907; Chief of the Division of Chemistry, U. S. Public Health and Hospital Service, Washington, D. C., 1911-13. At Stanford, since 1903.

†Gardner, David Charles, (Vestry, TWThF 9-12) Local 68
Chaplain, 1a Alvarado

Graduate, Church Divinity School of the Pacific, San Mateo, 1897. Curate, St. James Mission, San Francisco, 1898; Rector of All Saints Church, Palo Alto, 1898-1902. At Stanford, since 1902.

†Gibbons, Henry Walter, (350 Post St., 3-5)
Clinical Instructor in Gynecology and Obstetrics,

B. S., University of California, 1899; M. D., Cooper Medical College, 1902. Instructor in Pathology, Cooper Medical College, 1905-07; Instructor in Gynecology, 1907-11. At Stanford, since 1912.

†Gibbons, Morton Raymond, (350 Post St.) SF., Pacific 1658
Clinical Instructor in Medicine, 3979 Washington, SF-sf

A. B., University of California, 1891; M. D., Cooper Medical College, 1894. Instructor in Clinical Medicine, Cooper Medical College, 1904-09. At Stanford, since 1912.

†Gilbert, Charles Henry, (443, TWTh 2-3) PA 258
Professor of Zoology, 433 Melville

B. S., Butler University, 1879; M. S., Indiana, 1882, Ph. D., 1883. Assistant in Natural Sciences and Modern Languages, Indiana University, 1880-84; Professor of Natural History, University of Cincinnati, 1884-89; Professor of Zoology, Indiana University, 1889-91; Assistant to the U. S. Bureau of Fisheries, since 1880; Assistant, in charge of scientific exploration of the U. S. S. "Albatross," 1889, 1890, 1902, 1904, 1906. At Stanford, since 1891.

Graham, Harrington Bidwell, (1023 Head Bldg.,10-1) Berkeley 1215
Assistant Clinical Professor of Surgery, 209 Post, SF-sf

B. S., California, 1896, M. D., 1899. Superintendent of Waldeck Sanitarium, 1899; Assistant in Surgery, San Francisco Polyclinic, 1904; Assistant, Ear, Nose, and Throat Clinic, Cooper Medical College, 1910-11. At Stanford, since 1912.

†Grass, Donald Frederick, (221, MWF 10:15) PA 518X
Assistant Professor of Economics, 170 Waverley-p

Ph. B., Grinnell, 1894; A. B., Harvard, 1898, A. M., 1899. Instructor in History and Economics, Council Bluffs (Ia.), High School, 1894-97, 1906-08; Professor of History and Economics, Tabor College, 1908-10. At Stanford, since 1910.

†GRAY, HENRY DAVID, (209, TW 10:15) PA 434Y
Assistant Professor of English, 329 Lincoln-p
Ph. B., Colgate, 1897; A. M., Columbia, 1898, Ph. D., 1904. Assistant in German and French, Colgate Academy, 1896-97: University Scholar, Columbia University, 1898-1900; Instructor in Dramatic Literature, American Academy of Dramatic Arts, 1900-02; Instructor in English, University of Texas, 1902-05; Lecturer in English, Columbia University, Summer Session, 1905. At Stanford, since 1905.

GREEN, MARY S., Local 5
Matron of Roble Hall, Roble

†GREEN, RUFUS LOT, (71, 11:15-12:15) Local 108
Professor of Mathematics, 13 Salvatierra
B. S., Indiana, 1885, A. M., 1889. Instructor in Mathematics, Indiana University, 1885-86, Assistant Professor, 1886-88, Associate Professor, 1889-91, Professor of Pure Mathematics, 1891-93; Student, Johns Hopkins University, 1886-87. At Stanford, since 1893.

†GRIFFIN, JAMES OWEN, (35, 10:15-10:30) Local 54
Professor of German, 14 Alvarado
Graduate of the Pennsylvania State Normal School, 1873. Teacher in Pennsylvania State Normal School, 1873-74; Principal, Unadilla (N. Y.) Academy, 1874-79; Student, University of Göttingen, 1879-80; Principal of Delaware Academy (Delhi, N. Y.), 1880-85; Instructor in German, Cornell University, 1885-91, Registrar, 1890-91. At Stanford, since 1891.

*†GUÉRARD, ALBERT LÉON,
Associate Professor of Romanic Languages, Houston, Texas
B. A., Paris, 1898; Agrégé de l'Université de France, 1906. Traveling Scholarship in England, 1901-03; Junior Professor of French Literature and Examiner in History, State Normal School, Paris, 1904-06; Instructor in the Romanic Languages, Williams College, 1906-07. At Stanford, since 1907.

HADDEN, ELIZABETH, PA 434L
Chief of Order Department, Library, 1157 Ramona-p

HALL, ANNA GERTRUDE, SF., Fillmore 496
Cataloguer, Lane Medical Library, 2202 California, SF-sf
A. B., Stanford, 1906.

†HALL, HOWARD JUDSON, (206, TTh 9:15, W 2-3) PA 530Y
Assistant Professor of English, 209 Addison-p
B. S., Michigan State Agricultural College, 1890; A. B., Stanford, 1896; A. M., Harvard, 1900. Professor of English and Librarian, University of Arizona, 1891-1904. At Stanford, since 1904.

†HARCOURT, ROBERT HENRY, (541, 8:15-12:15, 1:30-4:30)
Instructor in Mechanical Engineering, 559 Everett-p
Blacksmith with Risdon Iron Works, San Francisco, 1898-1901, 1903-04; with Hammond Car and Elevator Company, San Francisco, 1901-02, 1904-05; with National Iron Works, San Francisco, 1902-03; with

Abner Doble Steel Company, San Francisco, 1905-06, Foreman of Forge Shop, 1906-07. At Stanford, since 1907.

HAYS, ALICE NEWMAN, Local 57
Reference Librarian, 3 Alvarado
A. B., Stanford, 1896; B. L. S., New York State Library School, 1903. Assistant, Home Education Department, New York State Library, 1901.

†HEATH, HAROLD, (436, MTThF 1:30-4) PA 557L
Professor of Zoology, 1147 Ramona-p
A. B., Ohio Wesleyan, 1893; Ph. D., Pennsylvania, 1898. Assistant in Biology, Ohio Wesleyan University, 1891-93; Professor of Biology, University of the Pacific, 1893-94; Harrison Fellow in Zoology, University of Pennsylvania, 1896-98. At Stanford, since 1894.

†HEMPL, GEORGE, (32, MWF 9:15, Th 2:30) Local 101
Professor of Germanic Philology, 8 Cabrillo
A. B., Michigan, 1879; Ph. D., Jena, 1889; LL. D., Wisconsin, 1904. Principal, Saginaw (Mich.) H. S., 1879-82, La Porte (Ind.) H. S., 1882-84; Instructor in German, Johns Hopkins University, 1884-86; Student, Universities of Göttingen, Tübingen, Strassburg, Jena, and Berlin, 1886-89; Assistant Professor of English, University of Michigan, 1889-93, Junior Professor, 1893-97, Professor of English Philology and General Linguistics, 1897-1906; Professor of English, University of Chicago, Summer Quarter, 1897; President of the American Dialect Society, 1900-05; President of the Modern Language Association, 1902-03; President of the American Philological Association, 1903-04. At Stanford, since 1906.

HILL, FRANK ERNEST, (206, TTh 9:15, F 8, 1)
Instructor in English, 128 Encina
A. B., Stanford, 1911. Assistant in English, University of Illinois, 1912-13.

HILL, HAROLD PHILLIPS, (177 Post St., 2-4) SF., West 967
Associate Clinical Professor of Medicine, 2336 Steiner, SF-sf
A. B., Stanford, 1898; M. D., University of California, 1901. Assistant in Physiology, Department of Medicine, University of California, 1899-1901, Instructor, 1901-03; Assistant Visiting Physician, St. Luke's Hospital, 1903-06, Visiting Physician, since 1906. At Stanford, since 1912.

*†HILMER, HERMANN JOHANN,
Assistant Professor of German, In Europe
A. B., Michigan, 1904; A. M., Columbia, 1905; Ph. D., Stanford, 1912. Assistant in German, University of Wisconsin, 1905-06; Student, University of Leipzig, 1906-07. At Stanford, since 1907.

†HIRSCHFELDER, JOSEPH OAKLAND, (275Post,S.F.,2-4) SF.,West757
Professor of Clinical Medicine, Emeritus, 1392 Geary, SF-sf
M. D., University of Leipzig, 1876. Professor of Materia Medica, Medical College of the Pacific, 1877-81, Professor of Clinical Medicine, 1881-82; Professor of Clinical Medicine, Cooper Medical College, 1882-1912; Visiting Physician, City and County Hospital of San Francisco, 1878-1912; Visiting Physician, Lane Hospital, 1895-1912. At Stanford, since 1909, Emeritus since 1912.

HOHFELD, WESLEY NEWCOMB, (7, TTh 10:15-10:45)

Professor of Law, 7 Salvatierra

A. B., California, 1901; LL. B., Harvard, 1904. Attorney at Law, California, since 1904, in General Practice, San Francisco, 1904-05; Instructor in Code Pleading and Practice, Hastings College of Law, University of California, 1905; Lecturer in Law, University of California, Summer Session, 1907; Associate Professor of Law, University of Chicago, Summer Quarter, 1908, Professor of Law, Summer Quarter, 1910, Autumn Quarter, 1911, Columbia University, Summer Session, 1914; Representative of Carnegie Foundation for Investigation of Pacific Coast Systems of Admission to the Bar, 1913-14. At Stanford, since 1905.

†HOISHOLT, ANDREW WILLIAM,

Clinical Professor of Psychiatry, State Hospital, Napa-n

M. D., Cooper Medical College, 1882; M. D., University of Heidelberg, 1884. Adjunct to chair of Physiology, Cooper Medical College, 1891-95; Assistant Physician, State Hospital, Stockton, 1889-1913; Superintendent Napa State Hospital, since 1913. At Stanford, since 1912.

HOLLMANN, EMIL FREDERIC, (112, 8:30-12, 1:30-5)

Assistant Academic Secretary, 56 Encina

A. B., Stanford, 1911.

HOLSCLAW, FLORENCE MABEL, (Scroth Bldg.,12-2) SF.,Fillmore2759

Clinical Instructor in Medicine, 240 Stockton, SF-sf

A. B., Stanford, 1894; M. D., Cooper Medical College, 1897. Assistant in Pediatrics, Cooper Medical College, 1900-11. At Stanford, since 1912.

†HOSKINS, LEANDER MILLER, (275, 11:30-12) PA 75

Professor of Applied Mathematics, 365 Lincoln-p

B. C. E. and B. S., Wisconsin, 1883, M. S., 1885, C. E., 1887. Instructor in Engineering, University of Wisconsin, 1885-89, Assistant Professor of Mechanics, 1889-91, Professor of Theoretical and Applied Mechanics, 1891-92. At Stanford, since 1892.

†HUSTON, CHARLES ANDREWS, (4, TWTh 2:30-3) PA 782Y

Professor of Law, 1048 Ramona-p

A. B., Chicago, 1902, J. D., 1907; S. J. D., Harvard, 1913. Fellow in Political Economy, University of Chicago, 1902-03; Assistant in Rhetoric, 1903-04; Associate in Rhetoric, 1904-06. At Stanford, since 1906.

ICHIHASHI, YAMATO, (215, MWF 10:15-11)

Instructor in Japanese History and Government, 209 Homer

A. B., Stanford, 1907, A. M., 1908. Assistant in Economics, Leland Stanford Junior University, 1908-10; Special Agent for U. S. Immigration Commission, 1908-10; Graduate Student, Harvard University, 1910-12, Henry Bromfield Roger Memorial Fellow in Sociology, 1911-12. At Stanford, since 1913.

†JENKINS, OLIVER PEEBLES, (482) Local 40
Professor of Physiology and Histology, 3 Lasuen
A. B., Moore's Hill College, 1869, A. M., 1872; M. S., Indiana, 1886, Ph. D., 1889. Professor of Natural Science, Moore's Hill College, 1876-82; Professor of Natural Science, Indiana State Normal School, 1883-86; Professor of Biology, De Pauw University, 1886-91. At Stanford, since 1891.

†JOHNSTON, OLIVER MARTIN, (242, MWF 9:15, TTh 11:15) Local 103
Professor of Romanic Languages, 4 Alvarado
A. B., Mississippi College, 1890, A. M., 1892; Ph. D., Johns Hopkins, 1896. Principal, Preparatory Department, Mississippi College, 1890-91, Professor of English, 1891-93; Fellow in Johns Hopkins University, 1895-96; Lecturer in French Philology, Bryn Mawr College, 1896-97. At Stanford, since 1897.

*†JORDAN, DAVID STARR,
Chancellor, In Europe
M. S., Cornell, 1872; M. D., Indiana Medical College, 1875; Ph. D., Butler College, 1878; LL. D., Cornell, 1886, Johns Hopkins, 1902, Illinois College, 1903. Instructor in Botany, Cornell, 1871-72; Professor of Natural History, Lombard University, 1872-73; Principal of Appleton (Wis.) Collegiate Institute, 1873-74; Lecturer in Marine Botany at Penikese, 1873-74; Teacher of Natural History, Indianapolis H. S., 1874-75; Professor of Biology, Butler College, 1875-79; Instructor in Botany, Harvard Summer School, Cumberland Gap, 1875-76; Assistant to U. S. Fish Commission, 1877-91; Professor of Zoology, Indiana University, 1879-85; President of Indiana University, 1885-91; President of the California Academy of Sciences, 1896-98, 1901-03, 1908, 1911; U. S. Commissioner in charge of Fur Seal Investigations, 1896-98, of Salmon Investigations, 1904; International Commissioner of Fisheries, 1908-10; President of the American Association for the Advancement of Science, 1909-10; Member of International Commission of Zoological nomenclature, from 1904; Chief Director, World Peace Foundation, since 1910. President of Leland Stanford Junior University, 1891-1913, Chancellor since 1913.

†KAY, WILLARD E., (477, MTThF 1-6) Local 13
Acting Instructor in Physiology, Encina
A. B., Stanford, 1912.

KELLER, LENA MARGUERITE,
Cataloguer, Library, 233 Addison-p
A. B., Cornell, 1903.

†KELLOGG, VERNON LYMAN, (431, 11-12) Local 141
Professor of Entomology, 14 Cabrillo
B. S., Kansas, 1889, M. S., 1892. Student, Cornell University, 1891, University of Leipzig, 1893; Assistant Professor of Entomology, University of Kansas, 1890-93, Associate Professor, 1893-94. At Stanford, since 1894.

†KIRKWOOD, MARION RICE, (6, MTWTh 1:30-2) PA 436Y
Assistant Professor of Law, 1325 Bryant-p
A. B., Stanford, 1909, J. D., 1911. Student, Harvard Law School, 1909-10; Assistant Professor of Law, University of Oklahoma, 1911-12. At Stanford, since 1912.

*KLINE, ALLEN MARSHALL, (233, Th 11:15) San Jose 5098L
Lecturer in American History, 896 McKendrie, SJ-sj
A. B., Michigan, 1904, Ph. D., 1907. Assistant and afterward Fellow in History, University of Michigan, 1904-07; Teacher of History and Civics, Springfield (O.) H. S., 1907-09; Professor of History and Political Science, College of the Pacific, since 1909.

†KREHBIEL, EDWARD BENJAMIN, (230, TF 10:15-10:30) Local 129
Professor of History, 29 Salvatierra
A. B., Kansas, 1902; Ph. D., Chicago, 1906. Graduate Student, University of Chicago, 1902-06, Fellow, 1903-05, Assistant, 1904-06; Graduate Student, Harvard University, 1904; Student, Ecole de Chartes, Paris, 1905; Instructor, University of Chicago High School, 1905-06; Assistant in History, University of Chicago, 1906-07, Instructor, 1907-09. At Stanford, since 1909.

†LENOX, LIONEL REMOND, (40c, 2-4) Main 47
Professor of Analytical Chemistry, Mountain View
Ph. B., Columbia, 1888. Assistant Chemist, Bethlehem Iron Co., 1887; Instructor in Chemistry, Lehigh University, 1888-91; Chemist, Ordnance Department, U. S. N., Washington (D. C.), 1891-92. At Stanford, since 1892.

*†LESLEY, EVERETT PARKER,
Assistant Professor of Mechanical Engineering, Philadelphia, Pa.
A. B., Stanford, 1897; M. M. E., Cornell, 1905. Apprentice and Foreman in Union Iron Works, San Francisco, 1897-1903. Assistant Inspector to Naval Constructor, 1903-04; Draftsman at U. S. Experimental Model Basin, Washington (D. C.), 1905-07. At Stanford, since 1907.

†LIGGETT, JAMES BENNETT, (540, 8:15-4:30) PA 533L
Instructor in Foundry Practice, 445 Forest-p
Apprentice and Foundry Moulder, Falls Rivet and Machine Co., Cuyahoga Falls (Ohio), 1883-88, Webster, Camp & Lane, Akron (Ohio), 1888-93, Bowler & Co., Cleveland (Ohio), 1893-98, Cleveland Steel Casting Co., 1898-99; Foreman, Born Steel Range Co., Cleveland (Ohio), 1899-1902, Westinghouse Electric Co., Cleveland (Ohio), 1902. At Stanford, since 1902.

†LONG, ROYCE REED, (Encina Gym., 11-12, 5-6) Local 109
Assistant Professor of Physical Training, 11 Salvatierra
A. B., Stanford, 1908. Physical Director, Young Men's Christian Association, Dixon (Ill.), 1897-98, Aurora (Ill.), 1899-1900; Assistant in Encina Gymnasium, 1902-04; Director of Vanderbilt University Gymnasium, 1904-06. At Stanford, since 1906.

†McCLAIN, EMLIN, (2, TWThF 11:15-12:15) Local 62
Professor of Law, 21 Salvatierra

Ph. B., State University of Iowa, 1871, A. B., 1872, LL. B., 1873, A. M., 1882, LL. D., 1891; LL. D., Findlay College, 1891. Professor of Law, State University of Iowa, 1881-87, Vice-Chancellor of Law Department, 1887-90, Chancellor, 1890-1900; Judge of the Supreme Court of Iowa, 1901-13. At Stanford, since 1913.

*McCRACKEN, MARY ISABEL,
Assistant Professor of Entomology, In Europe

A. B., Stanford, 1904, A. M., 1905, Ph. D., 1908. At Stanford, since 1904.

†McDOWELL, JOHN EZRA, (120, 8:15-12:15, 1:30-4:30) Local 44
Assistant Registrar, 10 Cabrillo

A. B., Stanford, 1900. At Stanford, since 1900.

†McFARLAND, FRANK MACE, (480, TTh 9:15-12:15, MTW 1:30-4)
Professor of Histology, 2 Cabrillo

Ph. B., De Pauw, 1889; A. M., Stanford, 1893; Ph. D., Würzburg, 1896. Professor of Biology and Geology, Olivet College, 1889-92; Student, Würzburg, Zürich, and Naples, 1894-96. At Stanford, since 1892.

†McKEE, ALBERT BROWN, (Union Sq.Bldg.,10-1) SF., Douglas 2222
Clinical Professor of Surgery, 350 Post, SF-sf

Ph. B., University of the Pacific, 1883, Ph. M., 1886; M. D., Cooper Medical College, 1886. Instructor and Acting Head of the Eye, Ear, Nose, and Throat Division, University of California Medical Department, 1902-08; Associate Professor of Ophthalmology, Cooper Medical College, 1908-12. At Stanford, since 1912.

†McMURPHY, JAMES IRA WILSON, (460 TWTh 8:15-12:15)
Instructor in Botany, College Terrace

A. B., Stanford, 1908, A. M., 1909. At Stanford, since 1908.

MAJOR, RALPH HERMAN,
Instructor in Pathology, San Francisco-sf

A. B., William Jewell, 1902; M. D., Johns Hopkins, 1910. Student, Chicago, Munich, and Leipzig, 1903-06; Resident House Officer, Johns Hopkins Hospital, 1910-11, Assistant Resident Physician and Assistant in Medicine, 1910-12; Voluntärarzt, K. K. Kinderklinik, Vienna, 1912-13.

†MANNING, WILLIAM ALBERT, (45, TTh 9:15) PA 689L
Associate Professor of Applied Mathematics, 604 Tennyson-p

A. B., Willamette University, 1900; A. M., Stanford, 1902, Ph. D., 1904. Acting Assistant Professor of Mathematics, University of Illinois, 1909-10. At Stanford, since 1900.

MANWARING, WILFRED HAMILTON, (15b, MWF 9-9:30) Local 36
Professor of Bacteriology and Immunity, 19 Salvatierra

B. S., Michigan, 1895; M. D., Johns Hopkins, 1904. Fellow and Assistant in Pathology, University of Chicago, 1904-05; Associate Professor

of Pathology, Indiana University, 1905-07; Traveling Fellow, Rockefeller Institute, 1907-08, Assistant in Pathology and Bacteriology, 1910-13. At Stanford, since 1913.

†MARTIN, ERNEST WHITNEY, (25) PA 132
Associate Professor of Greek, 525 Lincoln-p

A. B., Chicago, 1900; A. M., Stanford, 1902, Ph. D., 1910. Instructor in Latin and Greek, Private School, Clarinda (Ia.), 1895-96, Principal of High School, 1896-98; Student, University of Berlin, and American School of Classical Studies, Rome, 1900-01; Acting Professor of Latin and Greek, University of Nevada, 1908-09, Professor of Greek, 1909-10. At Stanford, since 1901.

MARTIN, LILLIEN JANE, (401, TTh 4:15)
Professor of Psychology, 15 Salvatierra

A. B., Vassar, 1880; M. L. A. and Ph. D., Bonn, 1913. Teacher of Science, Indianapolis High School, 1880-89: Vice-Principal and Head of Department of Science, Girls High School, San Francisco, 1889-94; Student, University of Göttingen, 1894-98. At Stanford, since 1899.

†MARTIN, PERCY ALVIN, (230, T 2-2:30, W 10:15-10:45) PA 569K
Assistant Professor of European History, 380 Kingsley

A. B., Stanford, 1902, A. M., 1903; A. M., Harvard, 1907, Ph. D., 1912. Student, University of Paris, 1903-04, Universities of Berlin and Leipzig, 1907-08; Fellow. Harvard University, 1908; Professor of History and French, Whittier College, 1904-05. At Stanford, since 1908.

†MARX, CHARLES DAVID, (271, 8:15-9:15) PA 255
Professor of Civil Engineering, 357 Kingsley

B. C. E., Cornell, 1878; C. E., Karlsruhe Polytechnicum, 1881. Instructor in Civil Engineering, Karlsruhe Polytechnicum, 1880-81; U. S. Assistant Engineer, Missouri River Improvement, 1882-84; Assistant Professor of Civil Engineering, Cornell University, 1884-90; Professor of Civil Engineering, University of Wisconsin, 1890-91. At Stanford, since 1891.

†MARX, GUIDO HUGO, (274, 9:15) PA 715
Professor of Mechanical Engineering, 356 Lincoln

M. E., Cornell, 1893. With Gleason Tool Co., Rochester (N. Y.), 1893-94; with Bement, Miles & Co., Philadelphia, 1894-95. At Stanford, since 1895.

†MEYER, ARTHUR WILLIAM, (7a, MTh 11:30-12:15) PA 335K
Professor of Anatomy, 121 Waverley-p

B. S., Wisconsin, 1898; M. D., Johns Hopkins, 1905; Assistant and Instructor in Anatomy, Johns Hopkins University, 1905-07; Assistant Professor of Anatomy, University of Minnesota, 1907-08; Professor of Anatomy, Northwestern University, 1908-09. At Stanford, since 1909.

²MILLER, ROBERT JUSTIN, (208, 10:15-11:15) PA 866X
Instructor in English, 580 Addison-p

A. B., Stanford, 1911; LL. B., Montana, 1913; J. D., Stanford, 1914. Assistant in Law, University of Montana, 1912-13. At Stanford, since 1913.

†Miller, Stephen Ivan, Jr., (221, 9:15-10:15) PA 254
Assistant Professor of Economics, 374 Kingsley
LL. B., University of Michigan, 1896; A. B., Stanford, 1898. Student at Heidelberg, 1900-02, University of Michigan, 1902-03; Quiz-Master, University of Michigan, 1903-04; Instructor in Economics and History, Pasadena High School, 1905-07; in United States Forest Service, 1908-10; Instructor in Economics, Los Angeles Polytechnic High School, 1910-12. At Stanford, since 1912.

Mirrielees, Edith Ronald, (207A, T 3:30, F 10:15) PA 723K
Instructor in English, 1027 Emerson
A. B., Stanford, 1907. At Stanford, since 1909.

†Mitchell, John Pearce, (10c, 2-4) PA 722
Assistant Professor of Chemistry, 235 Embarcadero
A. B., Stanford, 1903, A. M., 1904, Ph. D., 1909. Student, University of Leipzig, 1904-05. At Stanford, 1903-04, and since 1905.

Moore, Chester Biven, (291 Geary, 11-12:30) SF, Fillmore 2192
Clinical Instructor in Obstetrics and Gynecology, 291 Geary, SF-sf
B. S., California, 1906, M. D., 1910. Interne, University of California Hospital, 1909-11; House Officer, Children's Hospital, Boston, 1911-12.

Moreno, Halcott Cadwalader, (45) Local 31
Associate Professor of Applied Mathematics, 22 Alvarado
A. B., University of Georgia, 1893, A. M., 1894, B. L., 1896; Ph. D., Clark, 1900. Tutor in Mathematics, University of Georgia, 1893-97; Scholar and Fellow in Mathematics, Clark University, 1897-1900, Assistant in Mathematics, Clark University, 1900-01. At Stanford, since 1901.

Morgan, Jeannette Catherine, Franklin 7458
Assistant Librarian, Lane Medical Library, 1651 Larkin, S.F.-sf
A. B., Stanford, 1909.

†Moser, Charles, (273, WThF 1:30-4:30) PA 690X
Instructor in Civil Engineering, 651 Homer-p
C. E., Ohio Northern University, 1902; A. B., Stanford, 1908. At Stanford, since 1908.

Mosher, Clelia Duel, (94, 1-2) PA 23
Medical Adviser to Women and Director of Roble Gymnasium, 1094 Emerson
A. B., Stanford, 1893, A. M., 1894; M. D., Johns Hopkins, 1900. Assistant in Hygiene and Physical Training, Leland Stanford Junior University, 1893-94, Instructor, 1894-96; Externe in the Johns Hopkins Hospital Dispensary, and Gynecological Assistant in Dr. Kelly's Sanatorium, Baltimore (Md.), 1900-01; Physician, Palo Alto, 1901-10. At Stanford, 1893-96, and since 1910.

*†Murray, Augustus Taber,
Professor of Greek, New Bedford, Mass.
A. B., Haverford, 1885; Ph. D., Johns Hopkins, 1890. Fellow in Johns Hopkins University, 1887-88; Professor of Greek, Earlham College,

1888-90; Student, Universities of Leipzig and Berlin, 1890-91; Professor of Greek, Colorado College, 1891-92. At Stanford, since 1892.

§†Newcomer, Alphonso Gerald,
Professor of English, 1015 Forest Court-p
A. B., Michigan, 1887; A. M., Cornell, 1888. Fellow in Classics, Cornell University, 1887-88; Principal, Mt. Morris (Ill.) H. S., 1888-89; Instructor in Latin and French, Knox College, 1889-91. At Stanford, since 1891.

†Newcomer, Erval Jackson, (433, 8:15-12:15) PA 517K
Acting Instructor in Entomology, 1015 Forest Court-p
A. B., Stanford, 1911. Assistant, State Insectary, Sacramento, 1911-12.

*†Nielson, Axel,
Instructor in Electrical Engineering, Copenhagen, Denmark
Graduate Darmstadt Technische Hochschule, 1906. With Testing Department, Westinghouse Newark Works, 1907; with Operating Department, Niagara, Lockport and Ontario Power Co., 1907-09; with Engineering Department, Westinghouse Electric Co., East Pittsburg, 1909-11. At Stanford, since 1911.

†O'Neill, Arthur Aloysius, (Isolation Hospital) SF.,Mission 238
Clinical Instructor in Medicine, Army and De Haro, SF-sf
M. D., Cooper Medical College, 1891. Assistant Surgeon, Cooper Medical College Clinic, 1893; Assistant in Diseases of the Skin, San Francisco Polyclinic, since 1902; in charge of Isolation and Plague Hospital, 1907-10, of Isolation Hospital, 1912.

Ophüls, Louise, SF., Fillmore 496
Acting Librarian, Lane Medical Library, 2202 California, SF-sf

†Ophüls, William, (411 Clinical and Lab. Bldg., SF) Fillmore 1680
Professor of Pathology, 114 Walnut, SF-sf
M. D., University of Göttingen, 1895. Assistant at the Pathologic Institute at Göttingen, 1896-97; Professor of Pathology and Bacteriology, University of Missouri, 1897-98; Professor of Pathology and Bacteriology, Cooper Medical College, 1898-1912; Pathologist, Lane Hospital, since 1898. At Stanford, since 1909.

†Palmateer, Theron J., (530, 8:15-12:15, 1:30-4:30)
Instructor in Machine Shop, 171 E. Oxford, Mayfield-m
Apprentice with Sibley & Ware, South Bend (Ind.); Journeyman Machinist, 1896-1905, with R. Hoe & Co., New York, Columbus Machine Works, Columbus, O., Elems Engineering Works, Chicago, Western Gas Engine Works, Mishawaka, Ind., Webster Iron Works, Bakersfield, Cal., R. S. Hunkins, San Jose, Cal. At Stanford, since 1904.

Paris, Etta Louise,
Instructor in Roble Gymnasium, 551 University-p
Graduate, Sargent's School for Physical Education, 1908; Student of Mme. Zeniné, and of Gilbert School of Dancing, Boston; Student, Har-

§Died, September 16, 1913.

vard Summer School of Physical Training, 1910; Teacher of Physical Training, Y. W. C. A., Indianapolis (Ind.), 1908-10, Columbia College of Expression, 1910-11, Durant Gymnasium, 1911-12. At Stanford, since 1913.

PARK, CHARLES V., PA 393K
Chief of Loan Desk, Library, 707 Bryant
A. B., Stanford, 1909.

†PEIRCE, GEORGE JAMES, (466, W 3:30) PA 436X
Professor of Botany and Plant Physiology, 281 Embarcadero
S. B., Harvard, 1890; A. M. and Ph. D., Leipzig, 1894. Assistant in Botany, Harvard University and Radcliffe College, 1890-92; Parker Fellow in Harvard University, studying in Bonn, Leipzig, and Munich, 1892-94; Assistant Professor of Botany, Indiana University, 1895-97; Acting Professor of Botany, University of Wisconsin, second semester, 1910-11. At Stanford, since 1897.

PELLISSIER, ROBERT EDOUARD, (245, TTh 8:15-9:15) Local 21
Instructor in French, 20 Lasuen
B. S., Harvard, 1904, A. M., 1909, Ph. D., 1913. Shattuck Scholar in Romance Languages, Harvard University, 1910-11. At Stanford, 1909-10, and since 1911.

†PONZER, ERNEST WILLIAM, (40, 11:15-12) PA 174
Assistant Professor of Applied Mathematics, 939 Cowper-p
B. S., Illinois, 1900, M. S., 1903. Instructor in Mathematics, University of Illinois, 1900-09. At Stanford, since 1909.

†POOR, HENRY VARNUM, (314, MTWTh 1:30-4:30) PA 502L
Assistant Professor of Graphic Art, Evergreen Park
A. B., Stanford, 1910. Student, Slade School, University College, London, 1910, Julien's Academy, Paris, 1911; Instructor, Leland Stanford Junior University, 1911-12, Art Institute, Kansas City, Mo., 1913. At Stanford, 1911-12 and since 1913.

†PORTER, LANGLEY, (240 Stockton St., 2-5) SF, Douglass 3400
Clinical Professor of Medicine, 240 Stockton, SF-sf
B. S., Pennsylvania Military College, 1890; M. D., Cooper Medical College, 1896; L. R. C. P., M. R. C. S., England, 1900. Senior Dresser, London Hospital, 1900; Resident Physician, St. Mark's Hospital, London, 1901-02; City Physician, in charge of Contagious Diseases, San Francisco, 1903-08; Assistant Professor of Pediatrics, Cooper Medical College, 1908, Associate Professor, 1909-12. At Stanford, since 1912.

†POST, MARGARET A., (120, 8:15-12:15, 1:30-4:30)
Assistant Registrar, 328 Churchill

†PRICE, GEORGE CLINTON, (446) Local 53
Professor of Zoology, 5 Alvarado
B. S., De Pauw, 1890; Ph. D., Stanford, 1897. Student in Biology, Johns Hopkins University, 1890-92; University of Munich, 1895-96. At Stanford, since 1892.

†Rendtorff, Karl Gustav, (32, TTh 9:15-10:15) PA 449Y
Associate Professor of German, 318 Lincoln-p
A. M., Stanford, 1894, Ph. D., 1896. Student, University of Giessen, 1884-85, University of Kiel, 1885-91. At Stanford, since 1894.

[2]†Rich, Willis Horton, (441, 8:15-12:15)
Acting Instructor in Zoology, University Park

†Rigdon, Rufus Lee, (607 St. Paul Bldg., SF, 1-4) SF, Fillmore 2285
Clinical Professor of Surgery, 291 Geary, SF-sf
M. D., Cooper Medical College, 1887. Assistant and Instructor in Genito-Urinary Clinic, Cooper Medical College, 1888-98, Associate Professor of Genito-Urinary Surgery and Chief of Genito-Urinary Clinic, 1898-1908, Professor of Genito-Urinary Surgery, 1908-12. At Stanford, since 1912.

†Rixford, Emmet, SF, Franklin 5100
Professor of Surgery, 1795 California, SF-sf
B. S., California, 1887; M. D., Cooper Medical College, 1891. Adjunct Professor of Surgery, Cooper Medical College, 1893-98; Professor, 1898-1912; Visiting Surgeon, Lane Hospital, 1895, City and County Hospital, San Francisco, since 1899. At Stanford, since 1909.

†Robinson, Edgar Eugene, (230, MWF 11:15-11:30) PA 842L
Assistant Professor of American History, Central near Pope
A. B., Wisconsin, 1908, A. M., 1910. Assistant in History, University of Wisconsin, 1908-09, Fellow in American History, 1909-10; Assistant Professor of History, Carleton College, 1910-11. At Stanford, since 1911.

†Rogers, Austin Flint, (362, TWThF 10:15) PA 812X
Associate Professor of Mineralogy, 1047 Ramona-p
A. B., Kansas, 1899, A. M., 1900; Ph. D., Columbia, 1902. Assistant in Mineralogy, University of Kansas, 1898-1900; Assistant Geologist, University Geological Survey of Kansas, 1898-1900, 1903; Fellow in Mineralogy, Columbia University, 1900-02, Tutor in Mineralogy, 1902-05. At Stanford, since 1905.

*†Rogers, Frederick John,
Associate Professor of Physics, Princeton, N. J.
M. S., Cornell, 1891. Instructor in Physics, Cornell University, 1892-1900. At Stanford, since 1900.

†Ross, Perley Ason, (386, MT 1:30-4:30)
Instructor in Physics, 209 Hanover, College Terrace
A. B., Stanford, 1908, A. M., 1910, Ph. D., 1911. At Stanford, since 1908.

Rothganger, George, (126 Stockton, SF, 2-4)
Clinical Instructor in Surgery, Fairmont Hotel, SF-sf
A. B., University of California, 1885; M. D., Cooper Medical College, 1888. Assistant Surgeon U. S. N., 1889-1908.

RUSSELL, THERESA PEET, (211, 10:15) PA 456X
Instructor in English, 609 Kingsley-p
Ph. B., Iowa, 1895. Teacher in Denison Normal School, 1895-96; Principal, Vilisca High School, 1896-98; Graduate Student at Radcliffe College, 1898-99; Teacher in Anamosa High School, 1899-1900. At Stanford, since 1905.

†RYAN, HARRIS JOSEPH, (505, 11:15-12:15) Local 75
Professor of Electrical Engineering, 5 Santa Ynez
M. E., Cornell, 1887. With Western Engineering Co., Lincoln, Neb., 1887-88; Instructor in Physics, Cornell University, 1888-89, Assistant Professor of Electrical Engineering, 1889-92, Associate Professor, 1892-95, Professor, 1895-1905; Judge, Board of Awards, World's Fair, Chicago, 1893; U. S. Government Delegate, International Electrical Congress, St. Louis Exposition, 1904. At Stanford, since 1905.

†SABINE, GEORGE HOLLAND, (417, M 11:15-12, Th 9:15-10:15) Local 55
Associate Professor of Philosophy, 9 Salvatierra
A. B., Cornell, 1903, Ph. D., 1906. Sage Fellow in Philosophy, Cornell University, 1905-06, Assistant in Philosophy, 1906-07; Acting Assistant Professor of Logic and Metaphysics, Cornell University, 1910-11. At Stanford, since 1907.

†SANFORD, FERNANDO, (390) PA 646
Professor of Physics, 450 Kingsley
B. S., Carthage College, 1879, M. S., 1882. Student, University of Berlin, 1886-88; Professor of Physical Science, Mt. Morris College, 1879-82; Superintendent of Schools, Ogle County, Ill., 1882-86; Instructor in Physics and Chemistry, Englewood (Ill.), High School, 1888-90; Professor of Physical Science, Lake Forest University, 1890-91. At Stanford, since 1891.

†SCHALLER, WALTER FRANK, (126 Stockton, SF.) SF., Pacific 4495
Assistant Clinical Professor of Medicine, 150 W. Clay Park, SF-sf
M. D., Cooper Medical College, 1902. Interne, German Hospital, San Francisco, 1902-03; Assistant in Pathology, Cooper Medical College, 1905-06; Assistant Surgeon, U. S. N., 1906-08. At Stanford, since 1911.

[1]SCHAUPP, KARL LUDWIG,
Student Adviser, 2418 Washington, SF-sf
A. B., Stanford, 1913.

†SEARLES, COLBERT, (245, T 3-4)
Associate Professor of Romanic Languages, 20 Lasuen
A. B., Wesleyan University, 1895; Ph. D., Leipzig, 1899. Instructor in French and Italian, Indiana University, 1899-1900; Associate Professor of English and Modern Languages, University of Arkansas, 1900-01. At Stanford, since 1901.

SEARS, HARRY JOHNSON, (6b) PA 393K
Instructor in Bacteriology and Immunity, 707 Bryant-p
A. B., Stanford, 1911, A. M., 1912. At Stanford, since 1911.

†Sears, Jesse Brundage, (52, 10:15) PA 390K

Assistant Professor of Education, 1545 Waverley-p

A. B., Stanford, 1909. Instructor in Education, University of Wisconsin, 1909-10; Student, Teachers' College, Columbia University, 1910-11. At Stanford, since 1911.

Sewall, Edward Cecil,

Clinical Professor of Surgery, 135 Stockton, SF-sf

A. B., Stanford, 1898; M. D., Cooper Medical College, 1902. Assistant and Instructor in Ophthalmology, Cooper Medical College, 1901-07, Assistant Professor, 1907-09; Student in Freiburg, 1909-10; Associate Professor of Diseases of Eye, Ear, Nose, and Throat, Cooper Medical College, 1910-12. At Stanford, since 1912.

Seward, Samuel Swayze, Jr., (208MW 9:15, TTh 10:15) PA 728X

Assistant Professor of English, 262 Kingsley-p

A. B., Columbia, 1896, A. M., 1897. Scholar in Literature, Columbia University, 1896-97; Assistant in Literature, 1897-99; Student, Oxford University, 1899-1900; Acting Professor of English, University of Nevada, 1907; Assistant Professor of English, University of California, Summer Session, 1907, University of Oregon, Summer Session, 1908. At Stanford, since 1900.

†Show, Arley Barthlow, (230, MWF 11:30-12) PA 865

Professor of European History, 127 Cowper

A. B., Doane College, 1882; Graduate, Andover Theological Seminary, 1885; A. M., Doane, 1892. Pastor Congregational Church, Waco, Neb., 1885-87; Professor of History and English Literature, Doane College, 1887-92; Student, University of Leipzig, 1900-01; Lecturer on History of the Early Church, Pacific Theological Seminary, Oakland, 1905-07. At Stanford, since 1892.

†Skinner, Macy Millmore, (32)

Associate Professor of German, 628 Webster-p

A. B., Harvard, 1894, A. M., 1895, Ph. D., 1897. Harvard Fellow, University of Strassburg, 1897-98, University of Berlin, 1898-99; Instructor in German, Harvard University, 1899-1905. At Stanford, since 1905.

†Sloan, William Henry, (49c, 1:30-4:30)

Instructor in Chemistry, Alta Mesa, Box 105-p

A. B., Stanford, 1903, A. M., 1904. Student, University of Leipzig, 1904-05; Assistant Chemist, San Francisco Board of Health, 1905-06. At Stanford, 1903-04, and since 1906.

†Slonaker, James Rollin, (481, 10:30) PA 451

Assistant Professor of Physiology, 334 Kingsley-p

B. S., Wisconsin, 1893; Ph. D., Clark, 1896. Fellow in Biology, Clark University, 1893-96; with United States Fish Commission, Woods Holl (Mass.), summer, 1895; Instructor in Zoology, Indiana University, 1896-99, Indiana University Biological Station, 1896-1900; Assistant Professor of Zoology, Indiana University, 1899-1901; Research Assistant in Neurology, University of Chicago, 1901-02, Associate in Neurology, 1902-03. At Stanford, since 1903.

†SMITH, EVERETT WALLACE, (209a MT 10:15) Local 165
Assistant Professor of English, 10 Alvarado
A. B., Stanford, 1899. At Stanford, since 1910.

†SMITH, JAMES PERRIN, (329, 1:30-4:30) PA 600Y
Professor of Paleontology, 1335 Cowper-p
A. B., Wofford College, 1884; A. M., Vanderbilt, 1886; Ph. D., Göttingen, 1892. Assistant Geologist and Chemist, Arkansas Geological Survey, 1887-90; Assistant Geologist, U. S. Geological Survey, 1895-1906, Geologist since 1906. At Stanford, since 1892.

*†SNOW, WILLIAM FREEMAN,
Clinical Professor of Hygiene and Public Health, New York City
A. B., Stanford, 1896, A. M., 1897; M. D., Cooper Medical College, 1900. Student, Johns Hopkins Medical School, 1901-02; Secretary California State Board of Health, 1909-13. At Stanford, since 1901.

†SNYDER, JOHN OTTERBEIN,
Associate Professor of Zoology, Washington, D. C.
A. B., Stanford, 1897, A. M., 1899. Assistant U. S. Fish Commission, 1897, 1899, 1904; Naturalist on U. S. S. Albatross engaged in deep sea investigations, 1902, 1906. At Stanford, since 1897.

†SOMERS, GEORGE BURBANK, (Lane Hospital, 2-4) SF., Fillmore 296
Superintendent of Hospital, Clay and Webster, SF-sf
A. B., Harvard, 1886; M. D., Cooper Medical College, 1888. Chief Surgeon, San Francisco Emergency Hospitals, 1891-95; Adjunct to Chair of Gynecology, Cooper Medical College, 1889, Professor of Gynecology, 1901; Gynecologist to Lane Hospital, 1900-12. At Stanford, since 1911.

†SPALDING, ALFRED BAKER, (Lane Hospital) SF., Fillmore 826
Professor of Obstetrics and Gynecology, 2721 Jackson, SF-sf
A. B., Stanford, 1896; M. D., Columbia, 1900. Home Surgeon, General Memorial Hospital, New York, 1900-01; Assistant Resident Physician, Sloane Maternity Hospital, New York, 1901-02; Instructor in Obstetrics, University of California, 1902-05, Assistant Professor, 1905-09, Professor, 1909-12. At Stanford, since 1912.

†STANLEY, EDWARD JOHN, (535, 8:15-12:15, 1:30-4:30) PA 544K
Instructor in Woodworking, 269 Hawthorne-p
Machinist with Pacific Iron Works, San Francisco, 1879, Blacksmith, 1880, Draughtsman, 1881, Pattern Maker, 1883-86; Third Assistant Engineer, Steamer Alabama, 1882; Foreman Pattern Maker, Union Iron Works, San Francisco, 1886-1901, 1906. At Stanford, since 1901.

*STARKS, CHLOE LESLEY,
Instructor in Graphic Art, In Europe
At Stanford, since 1899.

*†STARKS, EDWIN CHAPIN,
Assistant Professor of Zoology, In Europe
Assistant in United States Bureau of Biological Survey, 1897-99; Curator of the Museum and Assistant Professor of Zoology, University of Washington, 1899-1900. At Stanford, since 1900.

STIDSTON, RUSSELL OSBORNE, (212, TTh 10:15-11:30) PA 660K
Acting Instructor in English, 757 Homer-p
A. B., Stanford, 1911, A. M., 1912.

†STILLMAN, JOHN MAXSON, (44c, 2-4:30) Local 48
Vice-President and Professor of Chemistry, 2 Alvarado
Ph. B., California, 1874, Ph. D., 1885. Assistant in Chemistry, University of California, 1873-75; Student in Chemistry, Strassburg and Würzburg, 1875-76; Instructor in Organic and General Chemistry, University of California, 1876-82; Chemist of the Boston Sugar Refining Company and Superintendent and Chemist of the American Sugar Refining Company, Boston, 1882-91. At Stanford, since 1891.

†STILLMAN, STANLEY, (2101 Webster St., 2-4) West 8819
Professor of Surgery, 2336 Broadway, SF-sf
M. D., Cooper Medical College, 1889. Adjunct Professor of Surgery, Cooper Medical College, 1895-98, Professor of Surgery, 1898-1912; Assistant Visiting Surgeon, City and County Hospital, San Francisco, 1891-99, Visiting Surgeon, 1899-1912; Visiting Surgeon, Lane Hospital, 1895-1912. At Stanford, since 1909.

STOLTENBERG, CLARA S., (485, MW 9:15-12:15) Local 24
Associate Professor of Physiology, 7 Alvarado
A. B., Stanford, 1896, A. M., 1897. At Stanford, since 1896.

*†STUART, HENRY WALDGRAVE,
Professor of Philosophy, In Europe
Ph. B., California, 1893; Ph. D., Chicago, 1900. Teacher, Hollister (Cal.) H. S., 1893-94; Fellow in Political Economy, University of Chicago, 1894-96; Instructor (pro tem) in Economics and Psychology, Washington University, St. Louis, 1896-97; Teacher, Central School, Oakland (Cal.), 1897-98; Principal, Woodland (Cal.) H. S., 1898-99; Fellow in Philosophy, University of Chicago, 1899-1900; Instructor in Economics and History, Ripon College, 1900-01; Instructor in Philosophy, State University of Iowa, 1901-04; Acting Professor of Philosophy, Lake Forest College, 1904-05, Assistant Professor, 1905-07. At Stanford, since 1907.

SUTLIFF, HELEN BINNINGER,
Chief Cataloguer, Library, 15 Salvatierra
A. B., Kansas, 1890. Head Cataloguer, University of Kansas Library, 1891-1905; Cataloguer in Columbia University Library, Summer, 1901.

†SWAIN, ROBERT ECKLES, (33c, 2-4) PA 247
Professor of Chemistry, 638 Channing-p
A. B., Stanford, 1899; M. S., Yale, 1901, Ph. D., 1904. Student, Universities of Strassburg and Heidelberg, 1901-02, Yale University, 1909-10. At Stanford, since 1898.

†TERMAN, LEWIS MADISON, (51, MWF 11:15, M 2:30) Local 178
Associate Professor of Education, 9 Dolores
A. B., Indiana, 1902, A. M., 1903; Ph. D., Clark University, 1905. Fellow in Psychology and Education, Clark University, 1903-05; Principal of High School, San Bernardino (Cal.), 1905-06; Head of

Department of Child Study and Pedagogy, Los Angeles State Normal School, 1906-10; Instructor in Education, Indiana University, Summer Session, 1909. At Stanford, since 1910.

*THOMPSON, WILLIAM FRANCIS, (423, MW 8-12)
Acting Instructor in Zoology, Encina
A. B., Stanford, 1911.

†TOLMAN, CYRUS FISHER, JR., (340, 8-12) PA 703K
Associate Professor of Economic Geology, 723 Hamilton-p
B. S., Chicago, 1896. Fellow in Geology, University of Chicago, 1907-08; Consulting Economic Geologist, 1899-1913; Professor of Geology, University of Arizona, 1905-06; Professor of Geology and Mining, 1906-12; Territorial Geologist of Arizona, 1910-12. At Stanford, since 1912.

†TOWNLEY, SIDNEY DEAN, (40, TTh 11:15-12) Local 16
Associate Professor of Applied Mathematics, 33 Salvatierra
B. S., Wisconsin, 1890, M. S., 1892; D. Sc., Michigan, 1897. Fellow in Astronomy, University of Wisconsin, 1890-91, Assistant in Astronomy and Mathematics, 1891-92; Hearst Fellow in Astronomy, University of California (Lick Observatory), 1892-93; Instructor in Astronomy, University of Michigan, 1893-95, 1896-98; Student, Universities of Berlin and Munich, 1895-96; Instructor in Practical Astronomy, University of California, 1898-1903, Lecturer in Astronomy, 1904-07; Astronomer in charge of International Latitude Observatory, 1903-07. At Stanford, since 1907.

†TREAT, PAYSON JACKSON, (230, MWF 11, TTh 10:15) Local 128
Associate Professor of History, 27 Salvatierra
A. B., Wesleyan, 1900; A. M., Columbia, 1903; Ph. D., Stanford, 1910. Instructor in History, Barnard School, New York City, 1900-03; Graduate Student, Leland Stanford Jr. University, 1903-05; Research Student in Far East, 1906-07; Instructor in Government, Harvard University, 1908-09. At Stanford, since 1905.

DEVRIES, LOUIS PETER, (245, T 10:15-11:15, F 8:15-9:15) PA 533
Instructor in Romanic Languages, 603 Waverley
A. M., Wisconsin, 1911, Ph. D., 1913. Student, University of Leyden, 1909; Assistant and Teaching Fellow in Romance Languages, University of Wisconsin, 1910-12.

WANDER, PAUL, (219, MWF 10:15-10:45)
Instructor in Economics, 840 Bryant-p
Ph. B., Chicago, 1908. Research Fellow, Chicago School of Civics and Philanthropy, 1909-10; Scholar and Fellow in Sociology, University of Chicago, 1910-13. At Stanford, since 1913.

†WEST, VICTOR J., (222, MTWF 10:15-11:15) PA 291X
Assistant Professor of Political Science, 376 Addison-p
Ph. B., Chicago, 1905. Instructor in English and Civics, Bradley Polytechnic Institute, 1905-06; Fellow in Political Science, University of Chicago, 1908-10, Assistant in Political Science, 1910; Instructor in Politics, Northwestern University, 1910-13; Assistant Chief of Service, Illinois Progressive Service Board, 1913.

†WEYMOUTH, FRANK WALTER, (484)
Assistant Professor of Physiology, College Terrace
A. B., Stanford, 1909, A. M., 1911. At Stanford, since 1910.

†WHITAKER, ALBERT CONSER, (220, MTWTh 9:45-10:15) Local 118
Professor of Economics, 21 Alvarado
A. B., Stanford, 1899; Ph. D., Columbia, 1904. Scholar in Economics, Columbia University, 1899-1900. Fellow, 1900-01; Student, University of Berlin, 1901-02; Lecturer in Economics and Social Science, Columbia University, 1906-07; Professor of Economics, University of California, Summer Session, 1906, 1911; Acting Professor of Economics, University of Chicago, second half of 1911-12 and 1912-13. At Stanford, since 1902.

†WILBUR, RAY LYMAN, (306Clin.and Lab.Bldg.,SF.,12-12:30) PA46
Dean of the Medical School and Professor of Medicine, 1201 Bryant-p
A. B., Stanford, 1896, A. M., 1897; M. D., Cooper Medical College, 1899. Assistant in Physiology, Leland Stanford Junior University, 1894-96, Instructor, 1896-97, Assistant Professor, 1900-03; Lecturer and Demonstrator in Physiology, Cooper Medical College, 1899-1900. At Stanford 1894-97, 1900-03, and since 1909.

†WILDMAN, MURRAY SHIPLEY, (223, 2-4) Local 179
Professor of Economics, 37 Salvatierra
A. B., Earlham, 1893; Ph. D., Chicago, 1904. Professor of History and Economics, Central College (Mo.), 1904-05; Instructor in Economics, University of Missouri, 1905-06, Assistant Professor, 1906-08; Acting Assistant Professor, University of Chicago, Summer Quarter, 1909; Assistant Professor of Economics and Commerce, Northwestern University, 1909-11, Professor, 1911-12. At Stanford, since 1912.

²WILLIAMS, MARY WILHELMINE, (215, TTh 11:15-12)
Instructor in History, 639 Gilman-p
A. B., Stanford, 1907, A. M., 1908, Ph. D., 1914.

†WING, CHARLES BENJAMIN, (278, 11:15-11:45) PA 449K
Professor of Structural Engineering, 345 Lincoln
C. E., Cornell, 1886. Fellow in Civil Engineering, Cornell University, 1886-87, Instructor, 1887-90, Assistant Professor, 1890-91; Engineer, Pompton (N. J.) Powder Co., 1887. Phoenix Powder Co., Farmingdale, N. Y., 1888; Assistant Engineer, Berlin (Conn.) Iron Bridge Co., 1889-90; Professor of Bridge and Hydraulic Engineering, University of Wisconsin, 1891-92. At Stanford, since 1892.

†WINTERMUTE, GEORGE PRESTON, (Shreve Bldg., 10) Berkeley 5933
Clinical Instructor in Surgery, 40 El Camino Real, Berkeley-b
M. D., Jefferson Medical College, 1893. At Stanford, since 1912.

WOLFF, FRANKLIN FOWLER, (73, TTh 2-3) PA 597Y
Acting Instructor in Mathematics, 230 Kellogg-p
A. B., Stanford, 1911. San Francisco Harvard Club Fellow at Harvard University, 1912-13.

WOLFSOHN, JULIAN MAST, (2502 Fillmore, 1:30-4) SF., Fillmore 1526
Clinical Instructor in Medicine, 2502 Fillmore, SF-sf

A. B., University of California, 1905, M. S., 1907; M. D., Johns Hopkins University Medical School, 1911. Research Assistant, Herzstein Laboratory, University of California, 1906-07; Medical House Officer, Johns Hopkins Hospital, 1911-12.

[2]†WOODWARD, FREDERIC CAMPBELL, (3, 2:30-3) PA 728X
Professor of Law, 262 Kingsley

LL. B., Cornell, 1894, LL. M., 1895; A. M., Dickinson College, 1902. Attorney at Law, practicing in New York City, 1895-98; Professor of Law, Dickinson College, 1898-1902; Professor of Law, Northwestern University, 1902-07; Professor of Law, University of Chicago, Summer Quarter, 1908. At Stanford, since 1907.

†WYNEKEN, FRIEDRICH ALEXANDER, (35, M 11:15) PA 404K
Instructor in German, 576 Lincoln-p

B. L., University of California, 1906, M. L., 1907, Ph. D., 1912. Assistant in German, University of California, 1909-12, and in Summer Sessions of 1910 and 1911. At Stanford, since 1912.

†YERINGTON, HENRY HERBERT, (Schroth Bldg., SF., 2-4) SF, Pac. 5464
Assistant Professor of Clinical Medicine, 240 Stockton, SF-sf

M. D., College of Physicians and Surgeons, New York, 1908. Student, Stanford University, 1900-04. Instructor in Pediatrics, Cooper Medical College, 1910-11. At Stanford, since 1913.

YOUNG, HAYES WILSON, (553, 1:30-4:30) Local 13
Instructor in Metallurgy, 109 Encina

A. B., Stanford, 1911, Engineer, 1912. At Stanford, since 1911.

†YOUNG, STEWART WOODFORD, (46c, 9:30-12, 2-5) PA 390L
Professor of Physical Chemistry, Bryant and Tennyson-p

B. S., Cornell, 1890. Assistant in Chemistry, Cornell University, 1890-91; Instructor in Chemistry, Swarthmore College, 1891-93. At Stanford, since 1893.

DEPARTMENTAL AND OTHER ASSISTANTS

Adler, Howard Felix, Medicine, 1590 Broadway, SF-sf
B. S., California, 1904; M. D., Harvard, 1908. German Hospital, New York City, 1908-11.

[2]Albrecht, Paul Gerhard, Chemistry, Encina

Allcutt, Chester Thorne, Applied Mathematics, 4 Lasuen

Allen, Matilda Florence, Rom. Lang., Roble
A. B., New Mexico, 1912.

Ambrose, Arthur Warren, Civil Engineering, Encina
A. B., Stanford, 1914.

[2]Anderson, James Maxwell, English, University Park
A. B., North Dakota, 1911.

Anderton, Herbert Seth, Obstetrics and Gynecology, 205 3d St., SF-sf
M. D., University of Maryland, 1910. Clinical Assistant, University Hospital, Baltimore, 1909-10 (special appointment); Student, Internal Medicine and Clinical Microscopy, Johns Hopkins University, 1910-11; Resident Physician, German Hospital, San Francisco, 1911-13; Surgeon, San Francisco Emergency Hospital Service, 1913-14.

Appleton, Harry, Applied Mathematics, 147 Encina

[2]†Atkinson, Archibald Anand, Pathology, 1174 Ellis, SF-sf
A. B., Pacific University, Forest Grove, Ore., 1901, A. M., 1906; M. D., Cooper Medical College, 1905. Instructor in Biology, University of Oregon, 1901-02; Interne, Lane Hospital, 1905-06.

Avery, Harold Tolman, Applied Mathematics, 142 Encina

[2]Bailey, Margery, English, 207 Hawthorne-p

Baker, William Elliott, President's Office, Encina

†Banham, Frank Daniel, Foreman in Mechanician Shop, 826 Waverley-p

[2]Barkan, Hans, Surgery, 2209 Laguna, SF-sf
A. B., Stanford, 1905; M. D., Harvard Medical School, 1910. Assistant in Pathology, Harvard Medical School, 1910-11, Instructor, 1911-12; Pathologist to the Long Island Hospital and Boston City Almshouse, 1911-12.

Barrow, Frank Elliott, History, Encina
A. B., Stanford, 1913.

Beasley, Shadworth O., Obstetrics and Gynecology, 425 Stockton, SF-sf
M. D., Cooper Medical College, 1897. Acting Assistant Surgeon, U. S. A., 1898; 1st Lieutenant and Assistant Surgeon, U. S. Vol., 1898; Captain and Assistant Surgeon, U. S. Vol., 1900; Major and Surgeon, U. S. Vol., 1901-03; Assistant in Anatomy, Cooper Medical College, 1904-06. Assistant in Surgical Clinic, 1903-06, Assistant, Genito-Urinary Clinic, 1909-11.

Beecher, Charles Edward, Civil Engineering, 192 Encina
A. B., Stanford, 1913.

Bell, (Mrs.) May Knight, Entomology, 532 Homer-p
Benham, Herbert Rovell, Physics, 527 Everett-p
Bentley, Edith Naomi, Education Library, 401 Webster-p
Bentley, Georgia Helen, Botany, 635 Homer-p
[2]Best, Neil Orrin, Encina Gymnasium, 58 Encina
Boezinger, Lydia Marie, Registrar's Office, 176 Bryant-p
Boyd, Forrest Edwin, Physiology, 337 Hamilton-p
†Brasch, Frederick Edward, Law Librarian, 911 Scott
Brekke, Mabel Adella, Greek, Los Altos 1
A. B., Stanford, 1913.
Brinton, Margaret, Library, 17 Salvatierra
A. B., Stanford, 1909.
[2]Bullis, Ileen, History, 17 Lasuen
†Burrows, John Robert, Surgery, 2007 Buchanan, SF-sf
M. D., Cooper Medical College, 1906. Assistant in Ophthalmology, Cooper Medical College, 1909.
Butcher, William Preston, Law Library, 181 Encina
A. B., Stanford, 1913.
[2]Caldwell, George, Surgery,
[1]†Campbell, Edgar Orner, Medicine, 2402 California, SF-sf
Card, Thomas Adam, Physiology, 764 Channing-p
Carus, Clayton Douglass, History, 424 Seneca-p
A. B., Stanford, 1913.
Carus, Hazel Gertrude, Roble Gymnasium, Univ. Park
[1]Chapman, John Frye, Encina Gymnasium, Encina
A. B., Stanford, 1909.
[2]Chappel, Donald Maurice, Economics, 11 Salvatierra
Chislett, William, Jr., Latin, 20 Lasuen
A. B., Stanford, 1910, A. M., 1911.
Clark, Birge Malcolm, Graphic Art, 4 Cabrillo
[1]Clute, Walker Stillwell, English, 28 Lasuen
[2]Coe, Harry Carson, Bacteriology, 4 Salvatierra
Collings, Ernest B., Custodian Memorial Church, 115 Alma-p
Cooke, John Daniel, Greek, 310 Waverley-p
Cooper, Warren Gosselin, Mineralogy, Encina
Cosgrave, Millicent, Obstetrics and Gynecology, 2619 Octavia, SF-sf
M. D., Cooper Medical College, 1902; Assistant, Children's Clinic, Cooper Medical College, 1904-08; Assistant, Medical Clinic, San Francisco Polyclinic, 1904-13; Chief, Gynecological Clinic, San Francisco Fruit and Flower Mission, 1906-13.
Cox, Joel Bean, Applied Mathematics and Electrical Eng., 51 Encina
Crosby, Clara, Zoology, Roble
A. B., Stanford, 1913.

[4]Dickinson, Samuel Clifford, Chemistry, 28 Lasuen
B. S., Wyoming, 1913.

†Dillon, James Root, Medicine, 2597 Sutter, SF-sf
A. B., Stanford University, 1908; M. D., Cooper Medical College, 1912.

Dodd, John McKee, Chemistry, 405 Emerson-p

[2]Dooling, Charles Wagner, Law Library, 85 Encina
A. B., Stanford, 1912.

[4]Downing, Edgar Dale, Pathology, Lane Hospital, SF-sf
M. D., Cooper Medical College, 1911. Assistant in Ophthalmological Clinic, Cooper Medical College, 1911-12.

[2]Draper, Roscoe Leroy, Physiology, 193 Encina
A. B., Stanford, 1913.

Duff, Marcella Carmelita, Cataloguer, Library, Menlo Park-m
A. B., Stanford, 1911.

Dunlap, David Porter, Library, 117 Encina

Dyer, Thomas Lafayette, Loan Desk, Library, Encina

Elsey, Howard McKee, Chemistry, 13 Encina

Ewell, Elmer R., Curator, Chemistry Laboratory, 523 Middlefield-p

[2]Fairclough, Katrine R., History, 6 Alvarado

Ferris, Gordon Floyd, Entomology, 2 Lasuen

†Fisher, Arthur Lawrence, Surgery, 126 Stockton, SF-sf
B. S., California, 1896; M. D., Johns Hopkins, 1900. Resident House Officer, John Hopkins Hospital, 1900-01; Fellow, Rockefeller Institute for Medical Research, 1901-02; Assistant Visiting Surgeon, Mt. Zion Hospital, San Francisco, 1902-08.

Forbes, William Boomer, Stenographer, Mech. Eng., 8 Salvatierra

Gale, Helen Avery, Order Department, Library, 940 Waverley-p

Gardner, Sydnie Aileen, Mathematics, Madrono
A. B., Stanford, 1913.

[4]Gearhart, William Edgar, Stenographer, Law, 471 Channing
A. B., Iowa, 1913.

Gedney, Frederick Mears, Surgery, 3013 Fillmore, SF-sf
M. D., Cooper Medical College, 1903.

Gibb, James Albert, Mechanical Engineering, San Juan Heights

[2]Gilbert, Carl Hughes, Law Library, 64 Encina
A. B., Stanford, 1913.

[2]Gillelland, Otho James, Dudley Herbarium, 167 Encina

Green, Aaron Samuel, Surgery, 531 9th Ave., SF-sf
M. D., Denver and Gross College of Medicine, 1908.

Green, Carol May, Economics, 15 Lasuen

Green, Louis David, Surgery, Shreve Bldg., SF-sf
M. D., Gross College of Medicine, Denver, 1909. Interne and Resident Physician, Southern Pacific General Hospital, San Francisco, 1909-11; Assistant, Nose and Throat Clinic, Cooper Medical College, 1911-12.

Gunn, Herbert, Medicine, 240 Stockton, SF-sf
M. D., Cooper Medical College, 1895.

Gunnell, Dorothy Parks, French, [1]English, 21 Salvatierra

de Haas, Jacob Anton, Economics, 358 Homer
A. B., Stanford, 1910; A. M., Harvard, 1911.

Haas, Sylvan Lewis, Surgery, 1590 Sacramento, SF-sf
B. S., University of California, 1904; M. D., Johns Hopkins Medical School, 1908.

Hadden, Fannie, Sec. Com. on Public Health. 1157 Ramona-p

Hager, John Manfred, Economics, 36 Encina

Hall, Anna Gertrude, Lane Medical Library, 2202 Calif., SF-sf

[2]†Hall, George Joyce, Medicine, 240 Stockton, SF-sf
A. B., Santa Clara College, 1908; M. D., Cooper Medical College, 1912.

Hammond, Philo Fay, Physics, 310 High-p
A. B., Washington, 1907.

[4]Harding, Edwin Reginald, Chemistry, 177 Encina
A. B., Stanford, 1913; A. M., 1914.

†Havens, Myrtil Cole. Mechanician, Machine Shop, 727 Cowper-p

Hayes, Jesse Ernest, Civil Engineering and Applied Math., 151 Encina

Heald, Ethel Grace, Serial Department, Library, 558 Hawthorne-p

Hettinger, Albert John, Jr., Economics, Faculty Club

Hilmer, Netta Haffner, German, 1011 Fulton-p
B. S., Michigan, 1895; A. M., Wisconsin, 1906. Assistant Principal H. S., Seymour, Wis., 1895-96; Instructor in Chemistry, Mt. Holyoke College, 1896-98; Student, University of Leipzig, 1899-1900; Principal H. S., Sturgis, Mich., 1900-04; Graduate Student, University of Wisconsin, 1904-06; Teacher of German, Wisconsin Academy, Madison, Wis., 1904-05; W. F. Allen Scholar in Germanic Philology, University of Wisconsin, 1905-06.

[2]Hodges, George Charles, History, 453 Channing-p

[2]Hogg, Elton Marion, Chemistry, Acacia
A. B., College of the Pacific, 1912.

[1]Holeman, George Stevenson, Encina Gymnasium, 76 Encina
A. B., Stanford, 1913.

Hollmann, Esther Karleene, Registrar's Office, 1 Salvatierra

Hollmann, Lillian Agnes, Loan Desk, Library, 1 Salvatierra

Howell, Bertha Blanchard, Physics, 33 Salvatierra
A. B., Northwestern, 1912.

[2]Howe, Mollie Margaret, Latin, 527 Emerson-p
A. B., Stanford, 1914.

Howes, John Gaylord, History, 219 Ramona-p
A. B., Stanford, 1914.

†Huffaker, Anthony, Medicine, 1739 Pine, SF-sf
M. D., Cooper Medical College, 1890.

[2]Hutchings, Robert K., Surgery,

Hyde, Clarence Elmer, Surgery, 240 Stockton, SF-sf
A. B., Stanford, 1905; M. D., Columbia, 1907.

[1]Jenkins, Leonard R., Physiology, 29 Encina
A. B., Stanford, 1913.

[2]Johnson, Roxana Galletly, Cataloguer, Library, Madrono
A. B., Indiana, 1903; B. L. S., Illinois, 1909.

Jones, James Walter, Chemistry, Acacia
A. B., Stanford, 1913.

Keatinge, Annie Harriet, Lane Medical Library, 1710 Pacific, SF-sf

Keefer, Chauncey Tennent, Mech. Eng. and Civ. Eng., Encina
A. B., Stanford, 1913.

Keen, Sadie, Stenographer, Geology and Mining, 1221 Webster-p

Kimberlin, Lester O., Surgery, 391 Sutter, SF-sf
M. D., Cooper Medical College, 1911. Interne, Lane Hospital, 1911-12, Senior Interne, Obstetrics and Gynecology, 1912-13.

[2]King, Marion Reginald, Physiology, 424 High-p

Knollin, Ernesto Ray, Encina Gymnasium, Encina

Kroll, Frederick Walter, Obstetrics and Gynecology, Lane Hosp., SF-sf
M. D., Cooper Medical College, 1912. Interne, French Hospital, San Francisco, 1912, Lane Hospital, 1913. Assistant in Dermatology, Mary's Help Hospital, San Francisco, and in San Francisco Polyclinic.

Kreps, Helen Katherine, Filing Clerk, Library, 1129 Emerson-p

La Fetra, Gladys Adelaide, Romanic Languages, 17 Lasuen

Lando, Milton Ellis, Surgery, 577-14th, Oakland-o
M. D., Cooper Medical College, 1900. First Lieutenant and Assistant Surgeon, U. S. Army, 1902-04, Passed Assistant Surgeon, 1904-10.

Lawrence, George Louis, Romanic Languages, 16 Alvarado
A. B., Stanford, 1913.

Lee, Russel Van Arsdale, Bacteriology, 4 Salvatierra

[2]Leland, Percy Earl, Encina Gymnasium, 16 Lasuen

[2]Lull, Linford C., Mechanical Engineering, 828 Cowper
A. B., Stanford, 1913.

†Luttrell, Peter Harrison, Medicine, 708 Shreve Bldg., SF-sf
M. D., Cooper Medical College, 1908. Assistant in Medical Clinic, Cooper Medical College, 1908-10, Instructor in Physical Diagnosis, 1910-11; Assistant in Medical Wards, Lane Hospital, 1911.

†Lyman, George Dunlap, Medicine, University Club, SF-sf
A. B., Stanford, 1905; M. D., Columbia, 1909.

McCord, Emily E., Economics, 467 Hamilton

McCready, Harry Lewis, Civil Engineering, 633 Channing-p

McLean, Robert Clay, Physics, College Terrace
B. S., North Carolina, 1912.

†McNair, Jerome Willis, Latin, 1227 Byron-p
A. B., Hamilton College, 1910.

†McNaught, Harvard Young, Surgery, 2211 California, SF-sf
M. D. C. M., Trinity University, 1897. Fellow by Examination, Trinity Medical College, 1897; Assistant, Ear, Nose, and Throat Clinic, Cooper Medical College, 1911-12.

[1]McPherron, Arnie Lilian, English, 21 Salvatierra
A. B., Stanford, 1914.

†Maloney, Henry Wilfred, Encina Gymnasium, 176 Waverley-p

[2]Marble, Russell Price, Registrar's Office, 339 Emerson-p

Marshall, James Gaylord, Law Library, Acacia

Mayer, Kenneth, President's Office, Mayfield

†Mead, Louis Durant, Medicine, 135 Stockton, SF-sf
B. S., California, 1898: A. M., M. D., Columbia University, 1902.

Meinhard, Arthur Richard, Bacteriology, 251 Emerson-p

[1]Michelson, Lewis, Obstetrics and Gynecology, 209 Post, SF-sf

[1]Miller, Robert Justin, English, 580 Addison
A. B., Stanford, 1911, J. D., 1914.

Mittenthal, Norman Jerome, Elec. Eng., Mariposa Hotel-p

†Moore, Harold Staats, Surgery, 2758 Union, SF-sf
M. D., Medical College of Indiana, Purdue University, 1898. Assistant, Indianapolis City Clinic; Assistant Surgeon, U. S. A., 1898-1901; Assistant, Ear, Nose, and Throat Clinic, Cooper Medical College, 1910.

Moore, William Homer, Bacteriology, Encina

Morosco, Albert Harold, Loan Desk, Library, 26 Lasuen

[1]Mosher, Hugh Harold, Chemistry, Encina
A. B., Stanford, 1913.

Murray, Alfred Conklin, Law Library, Encina

Murray, Robert Lindley, Chemistry, 1019 Bryant-p
A. B., Stanford, 1913.

Narver, David Lee, Civil Engineering, 6 Salvatierra

Newcomer, Mabel, Economics, 1015 Forest Court-p
A. B., Stanford, 1913.

Nissen, Herman Francis, Asst. Custodian Hyd. Lab., 356 Kingsley-p

Nolan, Frank L., Mechanical Engineering, 850 Ramona-p

Ober, Florence Sophia, Stenographer, History, Los Altos

Oliver, Jean Redman, Lane Library,

[1]Owens, William Brownlee, Law Library, 26 Lasuen

[1]Paulson, John Edwin, Physiology, 704 Bryant-p
A. B., Stanford, 1913.

Peck, Allen Earle, Surgery, 1401 Emerson-p
A. B., Stanford, 1898; M. D., Cooper Medical College, 1900.

Peck, Edward Lawrence, Mechanical Engineering, Encina
A. B., Stanford, 1914.

Perham, Philip Doss-Bradley, Loan Desk, Library, 335 Melville-p

Peters, Louise Marie, Cataloguer, Library, 17 Salvatierra
A. B., California, 1902; A. M., Colorado, 1905.
[2]Pettit, Carl Hamilton, Mechanical Engineering, Acacia
B. S., Grinnell, 1913.
[1]Porter, Clementine Burns, Cataloguer, Library, 233 Addison-p
Pratt, Francis Sitwell, Chemistry, Encina
A. B., Stanford, 1913.
[1]Price, Ruth, History, 64 Roble
A. B., Stanford, 1914.
Pyle, Kenneth, Geology and Mining, 1327 Byron-p
Ramsey, Agnes C., Mimeographer, 20 Lasuen
[2]Reynolds, Lloyd Robinson, Encina Gymnasium and Physiology, 455 University-p
†Rich, Willis Horton, Zoology, University Park
A. B., Stanford, 1909.
[2]Richardson, James Kemke, Civil Engineering, 18 Lasuen
[1]Richter, Charles, Bacteriology, 635 Bryant-p
Ridder, Harold Ferdinand, Mechanical Engineering, 4 Lasuen
Risley, Edith Frances, Registrar's Office, 10 Cabrillo
Risling, Ernest, Anatomy, 935 Webster-p
Rouiller, Jeanne Rose, Romanic Languages, 431 Channing-p
†Rumwell, Melville E., Surgery, 240 Stockton, SF-sf
M. D., Cooper Medical College, 1895.
Russell, Frank Marion, History, 26 Lasuen
A. B., Stanford, 1912, A. M., 1913.
Sandstrom, Arthur Charles, Civil Engineering, 55 Encina
Sankey, Stella Belle, Graphic Art, 4 Cabrillo
A. B., Stanford, 1913.
Schnetzler, Stanley Stolz, President's Office, 314 Ramona Bldg.
Scholz, Carl Eugene, Electrical Engineering, Encina
Scholz, Herbert Joseph, Electrical Engineering, Encina
Scott, Earl Theodore, Encina Gymnasium, Encina
Scott, Thomas Benjamin, Storekeeper, Chemistry Lab., Mayfield-m
[2]†Sewall, Chester Durbin, Medicine, 240 Stockton, SF-sf
M. D., Cooper Medical College, 1906.
Shone, Charles Gladwyn, Asst. Custodian, Mech. Lab., 356 Kingsley-p
Skolfield, William King, Applied Mathematics, 145 Encina
Smiley, Frank Jason, Botany, 446 Hamilton-p
A. B., Stanford, 1913.
Smith, Mary Elvira, Cataloguer, Library, 352 Fulton-p
Ph. B., Ottawa University.
Smith, Edgar Clarence, Law Library, Encina
A. B., Stanford, 1913.

Smith, Talmage Laughner, Loan Desk, Library, Encina

Somers, Howard, Surgery, 135 Stockton, SF-sf

M. D., Cooper Medical College, 1904; B. S., University of California, 1909. Assistant in Genito-Urinary Surgery, Johns Hopkins University Medical School, 1909-10; Assistant in Surgery, University of Berlin, 1910-11, San Francisco Polyclinic, 1911-12.

Sontheimer, Urban Alexander, Law Library, Encina

A. B., Stanford, 1912.

Staniford, Kenneth Jamison, Medicine, 323 Geary, SF-sf

M. D., Cooper Medical College, 1911.

Stanley, Herbert Mark, Mechanical Engineering, 269 Hawthorne-p

Stapleton, Leona Esther, President's Office, 5 Salvatierra

Stillman, Minna, Reference Assistant, Library, 2 Alvarado

A. B., Stanford, 1903.

†Stillson, Frank Leonard, Custodian, Encina Gym., 451 Ruthven-p

Stinchfield, Roxana Judkins, Botany, 327 Emerson-p

Stone, Herbert, Curator, Geology, 1229 Webster-p

A. B., Stanford, 1914.

Stuart, Archer Bell, Encina Gymnasium, 621 Gilman-p

Stuart, Ray, Roble Gymnasium, 621 Gilman-p

Swift, Faith A., Roble Gymnasium, 639 Gilman-p

A. B., Stanford, 1912.

Tag, Tessie, Stenographic Assistant, 85 Roble

Talbert, Wilford Ebenezer, Education, 424 High

A. B., Stanford, 1913.

Terry, Marcus Claude, Protozoology, 535 Middlefield-p

[2]Thoburn, James Harold, Encina Gymnasium, 6 Lasuen

Thomas, Earl Charles, Civil Engineering, 53 Encina

[1]Thompson, William Francis, Entomology and Bionomics, 32 Encina

A. B., Stanford, 1911.

Todd, Hannah Lillian, Library, 557 Hamilton-p

†Topping, Frank Pixley, Obstetrics and Gynecology, 1886 Vallejo, SF-sf

M. D., Cooper Medical College, 1899. Interne, German Hospital, San Francisco, 1899-1900; Assistant in Medical Clinic, Cooper Medical College, 1902-03; Instructor in Gynecology, 1904-12; Obstetrician to German Hospital, San Francisco, 1909-10. Acting Visiting Physician, 1910.

Trace, Gertrude May, Psychology, 730 University, SJ-sj

A. B., Stanford, 1914.

[2]Tulloch, Leslie Sutherland, Zoology Mariposa Club

[2]Tulloch, Martha, History, 10 Salvatierra

Tupper, Roland Beatty, Medicine, 297 Church, SF-sf

M. D., Cooper Medical College, 1910. Assistant Visiting Physician, St. Luke's Hospital, 1912: Assistant in Pediatrics, Cooper Medical College, 1912.

†Uhlman, Walter, Engineer, Mechanical Lab., 230 Emerson-p

Van Sicklen, William John, Chemistry, 347 Ramona-p
A. B., Stanford, 1912, A. M., 1913.

Venard, Isabel, Romanic Languages, 436 Lytton-p
A. B., Smith, 1909

[2]Vigars, Ernest Powell, Civil Engineering, 24 Encina

Ward, Butler Etter, Applied Mathematics, 16 Lasuen

Watkins, Fred Bradshaw, Chemistry, 185 Encina

[1]Wheeler, Elizabeth Mayo, History, Madrono
A. B., Stanford, 1914.

Wheeler, Francis Foss, Library, 193 Encina

Whipple, Stephen Knight, Jr., Civil Engineering, Burlingame-p

[2]Wildman, Esther Theresa, Economics, Madrono

Williamson, Laura Agnes, Cataloguer, Library, 566 Everett-p
A. B., California, 1909.

Winterberg, Walter Hoepfner, Surgery, 323 Geary, SF-sf
M. D., Cooper Medical College, 1895; Acting Assistant Surgeon, U. S. A., 1898-1900; Captain and Assistant Surgeon, U. S. V., 1901-02; Assistant in Surgery, Cooper Medical College, 1903-07, Instructor, 1908-10.

Wiseman, Alto Echo, Physics, 7 Lasuen
A. B., Stanford, 1912.

Withey, Hettie Alice, History, 375 Little Kingsley-p
A. B., Stanford, 1913.

Wolford, Edwin Byron, Mechanical Engineering, San Juan

Wollaston, Charles Hyde, Encina Gymnasium, Encina

Woodruff, Mary Jeanette, Stenographer, Library, Mountain View-m

†Woolsey, Chester Howard, Surgery, 350 Post, SF-sf
B. S., University of California, 1895, M. D., 1901. Assistant to Chair of Clinical Medicine, University of California, 1902-06; State Bacteriologist, California, 1903-04; Assistant to Chair of Genito-Urinary Surgery, Cooper Medical College, 1911-12.

[1]Wyckoff, Harry Alphonso, Encina Gymnasium, 342 Homer-p
A. B., Stanford, 1907.

Wyman, Eleanor McKee, Greek, 10 Salvatierra

[2]Ziser, George J., Chemistry, Encina

BUSINESS ADMINISTRATION

Allen, Everett E., Foreman Plumber.....948 Ramona-p
Ames, Edwin M., Voucher Clerk.....831 Kipling
Blodgett, David P., Bookkeeper.....268 Homer-p
Frehe, Frede, Foreman of Grounds.....Stanford University
Freedman, Sigle, Foreman.....Mayfield-m
Glenn, May, Stenographer.....Madrono
Henson, C. E., Stenographer..... 481 Lytton-p
Hewston, John E., General Superintendent.....Stanford University
Lathrop, Charles G., Treasurer.....Alta Vista
McDonnell, J. Walter, Foreman Electrician.....Palo Alto-p
Maloney, David, Farm Foreman.....Stanford University
Monasch, David, Purchasing Agent.....Nevada Bank Bldg., S. F.
Peterson, Harry C., Curator Museum.....672 Homer-p
Charter Member of the American Association of Museums; Special Commissioner to Southern California for California Historic Landmarks League, 1913, Member of Board of Directors, 1913-14; President, Palo Alto Historical Association,. 1913-14.
Quinn, Albert A., Clerk Encina.....929 Webster-p
Rich, Samuel H., Cashier.....3180 Washington St., San Francisco
Schilling, John C., Foreman Carpenter.....529 Addison-p
Smith, George B., Foreman Painter.....751 Ramona-p
Stager, Raymond M., Storekeeper.....532 Homer-p
Stow, Vanderlynn, Business Manager.....2900 Broadway, S. F.
Usinger, Charles F., Auditor.....San Jose
Waterman, Edward H., Chief Engineer.....Palo Alto
Waugh, Clarence W., Clerk.....Encina
Wariner, O. S., Superintendent of Construction..Stanford University
Wolfenden, Andrew M., Office Manager.....729 Waverley-p

ORGANIZATION

Foundation

The Leland Stanford Junior University was established under an Act of the Legislature, approved March 9, 1885, entitled "An Act to advance learning, the arts and sciences, and to promote the public welfare by providing for the conveyance, holding, and protection of property, and the creation of trusts for the founding, endowment, erection, and maintenance within this State of universities, colleges, schools, seminaries of learning, mechanical institutes, museums, and galleries of art." The Founding Grant, executed November 11, 1885, was made public at a meeting of the Board of Trustees, held in San Francisco, November 14, 1885. The cornerstone of the inner quadrangle was laid May 14, 1887, and the institution opened to students October 1, 1891.

Nature, Object, and Purposes of the University

'We, Leland Stanford and Jane Lathrop Stanford, husband and wife, grantors, desiring to promote the public welfare by founding, endowing, and having maintained upon our estate known as the Palo Alto Farm, and situated in the Counties of San Mateo and Santa Clara, State of California, United States of America, a university for both sexes, with the colleges, schools, seminaries of learning, mechanical institutes, museums, galleries of art, and all other things necessary and appropriate to a university of high degree, to that end, and for that purpose, do hereby grant,' etc.

'And that the trust hereby created may be executed according to the wishes of the grantors and each of them, they do hereby designate the Nature, Object, and Purposes of the Institution hereby founded, to be:

'Its nature, that of a University, with such seminaries of learning as shall make it of the highest grade, including mechanical institutes, museums, galleries of art, laboratories, and conservatories, together with all things necessary for the study of agriculture in all its branches, and for mechanical training, and the studies and exercises directed to the cultivation and enlargement of the mind;

'Its object, to qualify students for personal success and direct usefulness in life;

'And its purpose, to promote the public welfare by exercising an influence in behalf of humanity and civilization, teaching the blessings of liberty regulated by law, and inculcating love and reverence for the great principles of government as derived from the inalienable rights of man to life, liberty, and the pursuit of happiness.'

Name of the University

'Since the idea of establishing an institution of this kind, for the benefit of mankind, came directly and largely from our son and only child, Leland, and in the belief that had he been spared to advise as to the disposition of our estate, he would have desired the devotion of a large portion thereof to this purpose, we will that for all time to come the institution hereby founded shall bear his name, and shall be known as The Leland Stanford Junior University.'

Management and Control of the University

The general management and control of the institution is vested in a Board of Trustees originally numbering twenty-four, and chosen for life. By the Amending Act of May 31, 1899, the number of trustees is reduced to fifteen, with future elections for a term of ten years. The Board of Trustees fills all vacancies.

Powers and Duties of the Trustees

'The Trustees shall have power and it shall be their duty:

'To appoint a President of the University, who shall not be one of their number, and to remove him at will.

'To fix the salaries of the President, Professors, and Teachers, and to fix them at such rates as will secure to the University the services of men of the very highest attainments.

'To establish and maintain at such University an educational system which will, if followed, fit the graduate for some useful pursuit, and to this end to cause the pupils, as early as may be, to declare the particular calling which in life they may desire to pursue. . . .

'To prohibit sectarian instruction, but to have taught in the University the immortality of the soul, the existence of an all-wise and benevolent Creator, and that obedience to His laws is the highest duty of man.

'To have taught in the University the right and advantages of association and coöperation.

'To afford equal facilities and give equal advantages in the University to both sexes.

'To maintain on the Palo Alto estate a farm for instruction in agriculture in all its branches.

'The Board of Trustees shall annually report all their proceedings to the person who for the time being shall fill the office of Governor of the State of California, and shall accompany such report with a full account of their financial operations for the preceding year, and with a statement of the financial affairs of the institution.'

Powers and Duties of the President

'It shall be the duty of the Trustees to give to the President of the University the following powers:

'To prescribe the duties of the professors and teachers; to remove professors and teachers at will; to prescribe and enforce the course of study and the mode and manner of teaching; such other powers as will enable him to control the educational part of the University to such an extent that he may justly be held responsible for the course of study therein and for the good conduct and capacity of the professors and teachers.'

Amendments to the Founding Grant

A clause in the Founding Grant reserved to the grantors the right to alter, amend, or modify the terms and conditions of the grant in important particulars. Under this provision amendments were made by Mrs. Stanford, June 1, 1897; May 31, 1899; March 28, 1902; October 3, 1902; June 1, 1903. These amendments were concerned mainly with matters of detail, but provided also "that the number of women attending the University as students shall at no time ever exceed five hundred."

An Amendment to the Constitution of the State of California, adopted November 6, 1900, "permitted, approved, and confirmed all the trusts, estates, terms, and conditions" of the Founding Grant and of all the deeds, conveyances, and other instruments made and delivered before that date, and authorized the Legislature, under certain conditions, to exempt the property of the University from taxation.

The University Faculty

'The Trustees shall constitute the President and professors the faculty of the University, and shall prescribe their powers and duties as such.'

Under the Articles of Organization, adopted by the Board of Trustees March 31, 1904, the power and authority of the University Faculty is vested in the Academic Council, consisting of the President of the University, the professors and associate professors, the librarian, the registrar, such assistant professors as have been upon the roll of the faculty for three years, whether as assistant professors or instructors, and such other officers of the University or members of the teaching staff as the Academic Council may, with the assent of the Board of Trustees, determine.

All general University regulations, statutes, and rules as to matters within the province of the faculty, must be initiated in and passed by the Academic Council. The Academic Council has general power and responsibility for the internal administration of the University, subject to express provisions contained in the Articles of Organization respecting the methods of exercising such powers through the President of the University, the Advisory Board, the Standing Committees, and the Department Faculties.

The Advisory Board consists of nine members of the rank of professor, one from each of the five department groups, and four chosen without reference to groups. All executive acts of general importance, such as recommendations for appointments, promotions, and dismissals, for the creation of new departments or chairs, etc., must be submitted by the President to the Advisory Board. The Advisory Board is also privileged to make such recommendations to the President, regarding policy, as it may decide by vote to be expedient, but no recommendations for appointments, promotions, or dismissals, may originate with the Advisory Board.

The Executive Committee of the Academic Council consists of the President, Vice-President, Registrar, and two members from each department group elected by the Academic Council. The Executive Committee appoints the Academic Committees of the Council.

The Standing Administrative Committees of the Council are appointed by the President subject to the approval of the Advisory Board.

The Department Faculties consist of the professors, associate professors, assistant professors, and instructors in the several departments, but only members of the Academic Council have the right to vote. A Department Faculty has direction of the work of instruction in the department and of the internal administration of the department, subject only to such control as is vested in the Board of Trustees, the

President of the University, and the Academic Council. The Executive Head of the Department Faculty is designated by the President with the approval of the Advisory Board and of the Board of Trustees.

Departments

The work of the University embraces the following departments, divided into groups for the purpose of elections to the Advisory Board and Executive Committee, as indicated:

(I) Greek, Latin, Germanic Languages, Romanic Languages, English Literature and Rhetoric, English Philology; (II) Botany, Physiology and Histology, Zoology, Entomology and Bionomics, Medicine, Anatomy, Bacteriology and Immunity; (III) Psychology, Mathematics, Physics, Chemistry, Geology and Mining; (IV) Philosophy, Education, History, Economics, Law; (V) Graphic Art, Applied Mathematics, Civil Engineering, Mechanical Engineering, Electrical Engineering.

The Marine Biological Laboratory, founded by the liberality of Mr. Timothy Hopkins, and located at Pacific Grove, on the Bay of Monterey, is a branch of the biological work of the University.

Location

The seat of the University, except for the advanced and clinical work in Medicine, is at Stanford University, in the Santa Clara Valley, thirty miles southeast of San Francisco, on the Coast Division of the Southern Pacific Railway. The grounds of the University consist of over seven thousand acres, partly level and partly rising into the foothills of the Santa Cruz Range. The Bay of San Francisco lies about three miles east of the University grounds. Across the bay the Monte Diablo Range rises to a height of over four thousand feet, the Lick Observatory crowning Mt. Hamilton, the highest of the range. The Santa Clara Valley is one of the most attractive portions of the State in fertility, in natural beauty, and in the excellence of its climate. In winter the mercury rarely falls below 30 degrees, with an average midday temperature of about 55 degrees. In summer the midday temperature ranges between 60 degrees and 80 degrees, with occasional higher and lower numbers, the average being about 70 degrees; the nights are cool, the usual range being from 50 degrees to 58 degrees. The rainfall, normally about fifteen inches, is chiefly confined to the months from December to April, inclusive.

Buildings

The central group of buildings, constituting two quadrangles, the one surrounding the other, is an adaptation of the Mission Architecture, and reproduces on an imposing scale the open arches, long colonnades, and red tile roofing of the old Spanish Missions of California. The Inner Quadrangle consists of twelve one-story buildings and the Memorial Church, connected by a continuous open arcade, and surrounding a court 586 feet long by 246 feet wide, or three and a quarter acres. The buildings are of buff sandstone, somewhat varied in color, the stonework of broken ashlar, with rough rock-face, and the roofs covered with red tile.

The fourteen buildings of the Outer Quadrangle are constructed of the same material and in the same general style as the Inner Quadrangle, with open arcades on the outside. The extreme length of the Outer Quadrangle is 894 feet.

The Leland Stanford Junior Museum, situated a quarter of a mile from the Quadrangles, on the west side of the Palo Alto Avenue, contains the archæological and art collections of the University.

The Chemistry Building, located between the Quadrangles and the Museum, consists of two separate structures—the main building and the Assaying Laboratory.

Behind the central quadrangles are located the workshops of the Engineering departments, experimental laboratories, etc.

The dormitories are east and west of the Quadrangles. Encina Hall, for men, is at the east, and has accommodations for three hundred students. Roble Hall, for women, is at the west, and will accommodate one hundred students. Madroño Hall, a frame building, at present leased to private parties, receives only women students. It will accommodate about thirty students.

Encina Gymnasium and Roble Gymnasium are frame buildings, equipped with the apparatus and appliances for physical training.

The University Inn is a frame building intended primarily as a University commons for students living on the campus.

The grounds immediately about the University have been reserved in part for experimental and ornamental purposes, in part as residence sites for members of the Faculty and others who may desire to live on the University campus.

The buildings of the Medical Department in San Francisco occupy four fifty-vara lots bounded by Clay, Sacramento, and Webster streets,

and consist of the Clinical and Laboratory Building; Lane Hospital, a modern building in brick and stone, with a capacity of one hundred and eighty beds; the Nurses' Home; and the Lane Library, a fireproof structure of Colusa sandstone, three and a half stories high, with steel stacks accommodating 60,000 volumes.

The buildings of the MARINE BIOLOGICAL LABORATORY are located at Pacific Grove. They consist of two two-story structures, and contain four general laboratories, one lecture room, seventeen private rooms for investigation, and a dark room for photography.

ADMISSION TO THE UNIVERSITY

[For special regulations governing admission of women, see p. 65.]

I. FIRST-YEAR STANDING

CANDIDATES must be at least sixteen years of age. They must present satisfactory recommendations as to personal character, and must offer credentials amounting to fifteen entrance units as indicated below. Women must make formal application in advance on blanks to be furnished by the Registrar (see pp. 65-67).

An ENTRANCE UNIT represents a year's study in any subject in a secondary school, constituting approximately one quarter of a full year's work. In assigning credit values two laboratory, drawing, or practice periods, not requiring additional study or preparation, are regarded as the equivalent of one recitation period. The length of the school year is assumed to be from thirty-six to forty weeks.

ENTRANCE ON RECOMMENDATION

Undergraduate standing, without further tests, is granted as follows:

1. To graduates of approved preparatory schools who have completed a regular four years' course, amounting to not less than *fifteen* entrance units, and who are fully recommended to the University.

It is the purpose of the University to emphasize (1) quality of preparation and intellectual promise; (2) personal character and seriousness of purpose. Principals are expected to exact a high standard of scholarship as preliminary to recommendation, and to withhold recommendation from those who are undesirable or unpromising from the point of view of moral qualities or habits.

In fixing its recommending standard a school may properly provide that lower passing grades in a particular subject or subjects may be offset by a general high average or by decided intellectual promise. (Subjects passed with a grade below the recommending standard will be credited toward the necessary fifteen entrance units only when specific recommendation to that effect is made by the principal.) Subjects completed with private tutors, or under other than regular school conditions, should not ordinarily be recommended. Where the course of study includes the newer subjects, in which high school standards

are not fixed, the quantity and quality of work must be specially evidenced; in music (except in schools accredited by the University of California and following the California outline), the candidate will be expected to pass the examinations of the College Entrance Examination Board or similar university examinations.

Approved Preparatory Schools are schools maintaining full four years courses of high school work and accredited (1) by The New England College Entrance Certificate Board, by The North Central Association of Colleges and Secondary Schools, by colleges and universities of recognized standing, or (2) upon inspection undertaken or authorized by the University.

The University records of first-year students will be considered as additional evidence of the standing of preparatory schools and of their good faith and success in meeting the requirements of the University, and such evidence will be made use of in determining as to the continuance of accrediting relations.

2. To recommended graduates of California State Normal Schools, and to graduates of other Normal Schools approved by the California State Board of Education as of equal rank with California State Normal Schools, who are holders of the highest grade diploma issued by these Normal Schools. (For conditions on which advanced standing may be granted Normal School graduates, see p. 64.)

3. To holders of seventy-two-count Diplomas issued by the Regents of the State of New York, granted *with credit, with great credit,* or *with highest credit.*

4. To candidates from China, Japan, Mexico, and other foreign countries who present credentials showing the satisfactory completion of courses of study equivalent to those of approved American high schools. In Japan such courses of study must extend at least two years beyond graduation from a middle school; in Mexico, graduation from the National Preparatory School or from other preparatory schools maintaining six years courses, will be required. Before admission to the University such candidates must show ability to use, and to understand readily, both written and spoken English; if coming directly from these countries they must ordinarily expect to spend at least one year in an American preparatory school, or under special instruction in English, before being able to meet this test.

Recommendations will be considered at any time of the year, but, to avoid uncertainty and give opportunity for correction of errors and misunderstandings, they should be forwarded to the University as soon as possible after graduation.

Blanks for admission on recommendation may be obtained from the Registrar.

Entrance on Examination

No entrance examinations are given by the University. In general, candidates are advised to remain in the preparatory school until they fulfill the requirements for admission on recommendation; but if prepared to enter on examination, or desiring to supplement incomplete recommendation, they should take the examinations of the College Entrance Examination Board which are held simultaneously in all parts of the United States and in various foreign countries.

In 1914 the entrance examinations of the College Entrance Examination Board will be held June 15-20 (in California, at Stanford University, Berkeley, Carpinteria, Nordhoff, and Los Angeles.)

All applications for examination must be addressed to the Secretary of the College Entrance Examination Board, Post Office Sub-Station 84, New York, N. Y., and must be made upon a blank form to be obtained from the Secretary of the Board upon application.

Applications for examination at points in the United States east of the Mississippi River, also at points on the Mississippi River, must be received by the Secretary of the Board at least two weeks in advance of the examinations, that is, on or before Monday, June 1, 1914; applications for examination elsewhere in the United States or in Canada must be received at least three weeks in advance of the examinations, that is, on or before Monday, May 25, 1914; and applications for examination outside of the United States and Canada must be received at least five weeks in advance of the examinations, that is, on or before Monday, May 11, 1914.

Applications received later than the dates named will be accepted when it is possible to arrange for the admission of the candidates concerned, but only upon the payment of $5 in addition to the usual fee.

The examination fee is $5 for all candidates examined at points in the United States and Canada, and $15 for all candidates examined outside of the United States and Canada. The fee (which cannot be accepted in advance of the application) should be remitted by postal order, express order, or draft on New York to the order of the College Entrance Examination Board.

A list of the places at which examinations are to be held by the Board is published about March 1st of each year. Requests that the examinations be held at particular points, to receive proper consideration, should be transmitted to the Secretary of the Board not later than February 1st.

In these examinations the University will accept a mark of 60 as the lowest passing grade.

A Definition of Requirements in the various subjects in which examinations are held is given in Document No. 62, issued by the Board. (Price 10 cents: address Secretary, College Entrance Examination Board, Post Office Sub-Station 84, New York, N. Y.)

Entrance Subjects

The standard of preparation is the four years' high school course. The proper co-ordination of high school subjects for the individual pupil is regarded as primarily a problem for the secondary school; the University is prepared to recognize for entrance credit any subject having an established place in the secondary school curriculum, in which adequate instruction is given and which is pursued to satisfactory results.

No prescription, other than English, is made. Candidates desiring to study mathematics must obviously offer such elementary mathematics as is not taught in the University, and engineering students are expected to offer also solid geometry and trigonometry. Candidates desiring to study Latin should offer at least two entrance units in that subject. The State law governing the practice of medicine in California prescribes, among other requirements, that the preparatory course of every person practicing medicine or surgery in the State shall have included two years of Latin (or four years of high school German or French, or its equivalent, provided a satisfactory examination is passed in the elements of Latin grammar), two years of mathematics, two years of English, one year of history, two years of laboratory science, and six years of further credits in language, literature, history, or science.

All first-year undergraduates (including special students, and students coming from other institutions with less than twenty units of advanced credit) will be required to satisfy the University standard in English Composition. This may be done by passing a special Matriculation Test given during matriculation week. The examination will test the candidate's ability to write exercises not only free from marked deficiencies in spelling, punctuation, sentence structure, and paragraphing, but also indicative of his ability to think consecutively on a simple subject. The subjects which are set at the time of the examination will be drawn for the most part from the candidate's own experiences.

A student who passes this test may be exempted from Composition

work in the University, or may enter Course 2 in the Department of English. A student who does not pass will be required to register in English A at once (unless, by reason of numbers, such registration is postponed to a later semester), and remain in the course until his work is of passing grade. Some students, whose work shows exceptional promise of maturity, may be assigned to English 2 instead.

DEFINITION OF HIGH-SCHOOL SUBJECTS

The definition of high-school subjects given by the College Entrance Examination Board (Document No. 62 issued by the Board) will serve as a standard, and also, for California schools, the outline prepared by the University of California. The following suggestions and explanations will indicate the attitude of the University in judging entrance credentials, but no attempt is made to enumerate all the subjects which may be properly included in the high school curriculum.

1. **English.**—The work in English Composition should be given at least two recitations a week throughout the entire high school course. The greater part of this time should be devoted to practice in writing, but it is recommended that some attention be also paid to instruction in the fundamental principles of formal rhetoric.

The work in English Literature should be given an average of at least three recitations a week throughout the four years of the preparatory course. It should be so conducted as to give the student not only an appreciative understanding of the books selected either for general or for more intensive study, but also a knowledge of their place in the history of English Literature, and especially an ability to read aloud intelligently both prose and verse.

In the History of English Literature preparation should consist in a brief outline with a view to making clear the character and the tendencies of the more important literary epochs and associating the chief books and authors in their proper periods.

2. **Mathematics.**—The work in Mathematics is usually distributed as indicated by the following unit values: algebra (1 to 2), plane geometry (1), solid geometry (½), trigonometry (½). Additional work may be offered in algebra and plane analytical geometry. The solution of numerous original problems and exercises is assumed throughout the course.

3. **The Sciences.**—In Physics, Chemistry, Physiology, Botany, Zoology, Hygiene, and General Science a full year's work in each is expected, comprising, preferably, two recitation periods and three

double laboratory periods per week. Accurate notes of the laboratory work should be kept. Any two of the biological sciences (Physiology, Botany, Zoology) may be combined into a continuous year's course. Astronomy may be offered as a half-unit course.

Students who receive entrance credit in Chemistry, and who wish to continue the subject in the University, will be admitted at once to course *a*II and will be required to begin course I.

In Physiology the text-book work should be accompanied by experiment, dissection of animals and organs, and a certain amount of study of the tissues with the microscope.

In Botany the main thing is that the work shall be of a practical nature; that the study be mainly specimens and not books. A study of the growth and development of the forms selected is of the highest importance, and should be made a prominent feature in the work. If possible, the pupil should be allowed the use of a compound microscope; but when this is not practicable, microscopic demonstrations by the instructor are indispensable.

In Hygiene the work should include adequate instruction in personal hygiene, the hygiene of occupation, and the relation of the citizen to the State in matters of sanitation and public health. Three periods per week of physical training and three periods in experimental laboratory work in Hygiene, and two recitations per week on Public Health, or an equivalent amount of work distributed over a longer period, will cover the requirements for one unit of credit.

4. History and Allied Subjects.—History should be offered in full unit courses covering respectively the following divisions: (*a*) Ancient, (*b*) Mediaeval and Modern, (*c*) English, (*d*) American. Civics may be offered as a part of American history, or as an additional half-unit course. Biblical History and Literature and Economics may each be offered as a half-unit or as a unit course.

In the History subjects, in addition to the text-book preparation, the following exercises are recommended: Supplementary reading, including the use of original material where possible, notes and digests of reading; abstracts or analyses of specified chapters, both of the text-book and supplementary reading; outlines of subjects, gathering material from all available sources; map drawing from printed data or comparison of existing maps, showing movements of exploration, migration or conquest, territorial changes, or social phenomena. Such work should be regarded as a means rather than the end of historical study, and in every instance should be adapted in character and

amount to the stage of advancement of the class and of the individual pupil. As the pupil progresses in his study, more advanced work may well be required in the form of historical composition, and of note-taking in the class from talks by the teacher or reports of fellow pupils.

5-6. Spanish and French.—The elementary study of the languages, covering two years of daily recitations, should lay stress on the following points: (1) An accurate knowledge of the forms of the languages; (2) The elements of syntax; (3) The ability to turn easy English prose into French or Spanish; (4) The ability to translate ordinary French or Spanish into idiomatic English; (5) The ability to pronounce French and Spanish correctly.

The Intermediate requirements are intended to represent a third year of daily recitations. The specific demands are: (1) A thorough knowledge of modern French and Spanish syntax; (2) the ability to turn ordinary modern French and Spanish at sight into idiomatic English; (3) the ability to translate connected English prose of moderate difficulty into French or Spanish; (4) the ability to write French or Spanish from dictation; (5) some facility in speaking the languages.

The Advanced requirements will occupy a fourth year of daily recitations. At the end of this course the student should be able: (1) to read at sight any standard author not earlier than the seventeenth century; (2) to write in French or Spanish a short essay on some simple subject connected with the works read; (3) to translate correctly a passage of modern English prose; (4) to carry on a simple conversation in French or Spanish; (5) to follow a lecture in French or Spanish.

The reading in the Elementary course should cover from four hundred to six hundred duodecimo pages; in the Intermediate course a similar amount should be read of prose and verse, a portion to be in the dramatic form; and in the Advanced course the same quantity of prose and verse should be selected from standard authors not earlier than the seventeenth century, and these should be read with reference to their literary value.

The practice of writing compositions consisting in reproductions or paraphrases of the matter read should be begun in the Intermediate course and followed by short themes along similar lines in the Advanced course.

7. German.—The elementary study of the language, covering two

years of daily recitations, should include the following requirements: The ability to read understandingly easy German prose and verse at sight; an accurate knowledge of the most important elements of grammar, embracing especially inflections, word-order, and the essentials of syntax, as also the ability to appreciate the force of prefixes and suffixes; the ability to express in correct German simple ideas concerning familiar things; the ability to make oral use of the German learned and to recognize German words and simple sentences when spoken. Careful attention should be given to pronunciation and accentuation, in order to insure the power to read German fluently and intelligently.

This preparation is represented, approximately, *in reading,* by material of the character of Thomas and Hervey's Reader, and the careful study of one or more modern dramas (about two hundred duodecimo pages of easy German), supplemented by the reading of German lyrics and ballads, a number of which should be memorized; *in composition,* by daily practice in reproducing in one form or another the German read and in writing in German.

Intermediate German represents a third year of daily recitations covering the following requirements: The ability to read intelligently ordinary German prose and verse at sight; some knowledge of word-formation and derivation; practical familiarity with the principles of syntax, with special reference to the uses of the tenses and cases, the modal auxiliaries, and the moods; increased ability to write and speak German.

It is believed that this preparation can be acquired by continued practice such as is suggested above, in connection with the careful reading of five hundred duodecimo pages of contemporary and classical prose and verse, in addition to the reading required for Elementary German. It is recommended that about one-half of this reading be selected from the works of living or recent writers, such as Otto Ernst, Storm, Keller, Freytag, etc.; and the other half from such classics as Lessing's Minna von Barnhelm, Schiller's Wilhelm Tell, and Goethe's Wahrheit und Dichtung. Particular attention should be paid to the literary value of the works read. It is also desirable that candidates should acquire the ability to understand and take part in a recitation conducted in German.

Advanced German represents a fourth year covering, in addition to the preparation in Elementary and Intermediate German, the following requirements: A firmer hold on the important elements of German Grammar; a thorough knowledge of at least two of the

following classics: Goethe's Hermann und Dorothea or his Iphigenia, Lessing's Nathan der Weise, and Schiller's Wallenstein, as well as of two or more recent dramas, all of which should be studied as much as possible with an eye to the appreciation of their literary value; some familiarity with the technical language of literature and science; the ability to compose in German with ease and to follow lectures delivered in German.

8. Latin.—The reading required in elementary and advanced Latin (4 units), without regard to the prescription of particular authors and works, is not less *in amount* than Caesar, Gallic War, I-IV; Cicero, the orations against Catiline, for the Manilian Law, and for Archias; Virgil, Aeneid, I-VI. An equivalent amount of reading from authors other than these specified above may be substituted. The following are suggested: Caesar, Civil War; Eutropius; Nepos; Terence, Phormio; Cicero, Letters; Sallust; Virgil, Bucolics and Georgics; Ovid, Metamorphoses.

Exercises in translation at sight should begin in school with the first lessons in which Latin sentences of any length occur, and should continue throughout the course with sufficient frequency to insure correct methods of work on the part of the student. From the outset particular attention should be given to developing the ability to take in the meaning of each word—and so, gradually, of the whole sentence —as it stands; the sentence should be read and understood in the order of the original, with full appreciation of the force of each word as it comes, so far as this can be known or inferred from that which has preceded and from the form and position of the word itself. The habit of reading in this way should be encouraged and cultivated as the best preparation for all the translating that the student has to do. No translation, however, should be a mechanical metaphrase. Nor should it be a mere loose paraphrase. The full meaning of the passage to be translated, gathered in the way described above, should finally be expressed in clear and natural English.

The school work in Latin should include much reading aloud, writing from dictation, and translation from the teacher's reading. Learning suitable passages by heart is also very useful, and should be practiced.

The work in composition should give the student a better understanding of the Latin he is reading at the time, if it is prose, and greater facility in reading. It is desirable, however, that there should be systematic and regular work in composition during the time in which poetry is read as well; for this work the prose authors already studied should be used as models.

9. Greek.—In Elementary Greek (2 units) the following requirements should be covered: Grammar, the inflections and the essential points of syntax; Xenophon's Anabasis, Books I-IV, or an equivalent; prose composition. It is expected of every pupil that he be able to read Greek aloud without stumbling.

In Advanced Greek (1 unit): Homer, Iliad, Books I-III, or an equivalent; advanced prose composition. The pupil should have a good acquaintance with the forms and syntax of Homer, and be able to scan any given passage exactly and to read it rhythmically. In the writing of Greek the pupil should have a year's training beyond that required in Elementary Greek.

10. Drawing and Applied Art.—In each of the drawing subjects (Freehand, Mechanical, and Architectural) a unit of credit represents daily double periods for a year or single periods for two years.

In Freehand Drawing approximately two-thirds of the time should be given to representation and one-third to decorative and constructive design. *Representation* should include: object drawing, boxes, books, bowls, vegetables, machine parts, drawn in various positions with attention to perspective facts in line and also to light and shade; plant forms, seed pods, shells, insects, animals, and simple landscape, drawn in line, in light and shade, and in color; composition, exercises in arrangement and adaptation of pictorial subjects into good composition, using both rhythmic line arrangement and harmonious color. The style of drawing should be direct, facile and effective, adapted to the thing drawn, with refinement in its proper place and vigor in its proper place. The pupil should be equally familiar with the use of pencil and charcoal or brush. *Design* should include (1) Exercises in space filling, borders and all-over patterns with use of geometric and organic forms; (2) principles of constructive and decorative design applied to simple objects, as: in printing, a title-page or program; in textiles, a stencil or embroidery design for a curtain or table-scarf; in wood, working drawings for a chair, table, clock-case, book-rack, etc.; in metal, cabinet hardware and lighting fixtures, etc. Talks supplemented by photographs of the best paintings and architecture, and talks upon taste in home furnishing and appointments, with visits to worthy examples, should supplement the course, with a view to developing an enlightened taste in art.

In Mechanical Drawing the pupil is expected to acquire neatness and accuracy in the use of drawing instruments. This course should include practice in line work, lettering, machine or architectural working drawings, and tracing. Recognition, commensurate with the length

of course and the degree of proficiency attained in the use of instruments, will be given, however, to courses consisting of line work, lettering, and the construction of geometric figures.

11. **Shopwork.**—Two things are expected: First, a knowledge of the materials and tools used, and a thorough understanding of the principles involved in the operation performed; second, manual dexterity, as evidenced by neatness, accuracy, and despatch in the execution of a given piece of work.

Woodworking (½ unit) demands the ability to recognize the common varieties of wood, and some knowledge of their physical properties, such as ease of working, strength, toughness, hardness, etc., is expected. The pupil should be familiar with the uses of the principal hand tools of carpentry and with their care, be able to make the ordinary kinds of joints and splices, and be familiar with the operation of the lathe, jig-, band-, and circular-saws, and planing machines.

Forge Work (½ unit) demands an elementary knowledge of the properties of wrought iron and steel, and of the proper heats at which to work them. The management of forge and fire and the nature and uses of all the ordinary blacksmithing tools should be known. The pupil should be able to execute all of the common forging processes, including the various forms of welds in iron and steel; he is also expected to understand hardening, tempering, and annealing.

Foundry Work (½ unit) demands a knowledge of the tools and processes used in the ordinary forms of green sand moulding and core work. The pupil should have had experience in the operation of the cupola and know how to charge and operate it. He should have a knowledge of the properties of cast iron, and experience in pouring cast iron as well as in moulding.

Machine Shop Work (½ to 1 unit) demands a knowledge of the tools and processes used in the wroking of iron, steel, and brass. The pupil should be able to execute all forms of vice-work, such as chipping, filing, scraping, fitting, and finishing. He should be familiar, through experience in operation, with the simpler forms of machine tools, such as the lathe, drilling machine, planer, shaper, and milling machine.

12-15.—In Agriculture, Horticulture, Domestic Science, Commercial Subjects, and Music the outline prepared by the University of California is suggested; also, in Music, the definition given by the College Entrance Examination Board.

II. SPECIAL STUDENTS

Persons under twenty-one years of age will not be received as special students.

The privileges extended to special students are not intended for those who come directly from the schools, with insufficient preparation for regular standing, but for those who are qualified by age, character, practical experience, and habits of study to profit by university courses. (On account of the limitation upon the number of women students, women are not admitted as special students.)

Special students are subject to the same University regulations as regular undergraduates, and they may become candidates for graduation upon fulfilling all University requirements (see p. 73).

Blank applications for admission as special students may be obtained from the Registrar.

Special Workers

Physicians and others who are properly qualified but not candidates for a degree, may be admitted to work in the Department of Medicine with the permission of the Executive Head of the Department and of the professor or professors concerned. Such persons shall be listed as Special Workers.

III. ADVANCED STANDING

Students from other institutions of recognized collegiate rank, who present satisfactory credentials, may be admitted to such standing and upon such terms as the Faculty may deem equitable. Students from institutions of equivalent rank, who maintain a satisfactory record after admission, may expect to receive the same standing as at the former institution, except that no such student can be given more than three years' advanced credit (ninety unit-hours toward graduation), and that differences in standard of entrance preparation will be taken account of. Every candidate must present a full certified transcript of his college record, including entrance credit, and a letter of honorable dismissal. Women with less than two years of college standing must make formal application in advance on blanks to be furnished by the Registrar (see pp. 65-67).

Recommended graduates of approved State Normal Schools where the normal training has been preceded by a full four years' high school course, or where high school and normal school course together

cover six years' work, may ordinarily be granted an advanced credit of thirty units.

Blank applications for admission to advanced standing may be obtained from the Registrar.

All applications for advanced standing on the basis of work done before entering the University must be filed within two years after matriculation; and such applications will not be received at a later date.

IV. GRADUATE STANDING

Graduates of institutions of recognized collegiate rank may be admitted to graduate standing in the University upon presentation of diplomas or equivalent credentials. Admission to technical graduate standing does not imply admission to candidacy for an advanced degree (for the conditions of such candidacy see p. 83). If graduates of other universities desire to become candidates for the baccalaureate degree, the question of units required for graduation may be waived, upon approval of the Committee on Admission and Advanced Standing, and the degree conferred on the satisfactory completion of not less than thirty units of University work and the fulfillment of all major and minor requirements. Graduate students not candidates for any degree, may be permitted, upon the approval of the major department, to undertake such work as their previous training seems to warrant.

Special Regulations Governing Admission of Women

The Founding Grant of the University, as amended May 31, 1899, directs "that the number of women attending the University as students shall at no time ever exceed five hundred." In conforming to this provision the following plan of admission has been adopted:

Women once admitted to the University will be allowed to continue without further application, so long as scholarship and conduct are satisfactory, and provided they present themselves for registration on the regularly appointed days. Places will not be held for women students after the regular registration days, *except by permission of the Committee on Registration granted in advance.*

Graduates of other universities of recognized standing will be admitted provided they make formal application not later than August 15th for the August-September matriculation, and not later than December 20th for the January matriculation, and present themselves for matriculation upon the regular registration days.

For the remaining number of women students permitted by the Founding Grant the plan of admission is as follows:

Applications may be made at any time. They must state the proposed date of entrance and the credentials which the candidate expects to offer. To insure consideration, applications made more than six months before the proposed date of matriculation must be renewed (by written notice or new application) some time during the six months immediately preceding the proposed date of matriculation (between March 1st and July 10th for the August matriculation; between July 1st and October 10th for the January matriculation). Blanks for application may be obtained of the Registrar.

Early application is important—preferably a year or more in advance of the proposed date of matriculation. But unless complete credentials follow so as to be in the hands of the Registrar on the dates specified (July 10th, October 10th) the advantage of early application will be lost.

Numbered lists will be begun July 10th (for the August-September matriculation), and October 10th (for the January matriculation). All candidates whose credentials are complete and in the hands of the Registrar on the dates specified will be given numbered admission cards *in the order of original application,* except that the University reserves the right to give preference to candidates of exceptionally high scholarship and special fitness. (These numbered cards will be mailed to candidates about the middle of July, or October, as the case may be.) After the first lists are made up, additional numbered cards are issued in the order in which complete credentials are received, the order of original application applying where the complete credentials of more than one candidate are received on the same date.

On registration day candidates will be preferred in their serial order. If less than five hundred women shall have registered at the close of the regular registration period, and if others on the numbered list are present, they will be permitted to register, in their serial order, until the full number is complete.

Complete credentials comprise: *for first-year standing,* (1) formal application, (2) fifteen accepted entrance units; *for advanced standing,* (1) formal application, (2) full certified transcript of college record, including entrance credits, (3) letter of honorable dismissal; *for graduate standing,* (1) formal application, (2) diploma or certificate of graduation.

A fee of ten dollars is required from all women who file credentials for admission to the University, and no credentials will be

adjusted until this fee is received. If the candidate enters the University the fee is refunded. If the candidate decides not to enter the University and notifies the Registrar before July 10th of the year for which application is made the fee will be refunded. (For the January matriculation notification should be given before October 10th.)

In the case of graduate students the fee will be refunded if notice is given before August 15th (for the August-September matriculation) and before December 20th (for the January matriculation).

Candidates receiving numbered cards for a given date, but not matriculating at that time because of the five hundred limit, may be transferred to the next year, in their serial order, or may have the fee refunded.

FEES, EXPENSES, AND AID FUNDS

Tuition and Incidental Fees

The Constitution of the State of California, as amended November 6, 1900, authorizes the Legislature, under certain conditions, to exempt the property of the University from taxation, provided residents of California are charged no fees for tuition unless such fees shall be authorized by the Legislature. An Act of the Legislature, approved February 14, 1901, "exempting from taxation a portion of the property held in trust for the benefit of the Leland Stanford Junior University," as amended March, 1907, provides "that while this Act is in force no fees shall be charged residents of this State for tuition, except that such fees may be charged in professional and engineering courses."

Tuition Fees are charged in Law, for professional law courses, as follows: to students registering for thirteen or more units in law in any semester, $50 per semester; to students registering for less than thirteen units in law for any semester, $4 per unit per semester. (For students matriculating in the University prior to March 31, 1910, the tuition fees in Law are one-half the amount named.)

The Tuition Fee in the Department of Medicine is $150 per year.

An Incidental Fee of $15 per semester is charged to all registered students, with the following exceptions: (1) Those registered in the professional courses of Law and Medicine, paying tuition fees in those departments amounting to fifteen dollars or more per semester, (2) graduate students accepted as candidates for an advanced degree.

Students in laboratory courses pay for the materials which they use, and in various courses syllabus and other fees may be charged. Laboratory and syllabus fees are different for the different courses, ranging from $0.50 to $25 per semester.

Laboratory fees are ordinarily returnable as follows when duly claimed in writing within two months after the date of withdrawal from the University: thus, the whole amount will be refunded when the student withdraws within one week of the beginning of a semester, and one-half the amount if the student withdraws before the middle of a semester; but no fees will be refunded on account of withdrawals after the middle of a semester, nor unless claimed in writing within two months after the date of withdrawal. (This regulation is not applicable to the Department of Chemistry.)

The Guild Fee of $2 per semester is charged to all students registered in the University.

A Diploma Fee of $5, payable before Commencement in May, is charged all persons receiving degrees from the University.

Cost of Living

The cost of living in Roble Hall, including board, room, light, heat, and attendance, averages about $28 per month. Students furnish their own linen, blankets, and towels. Requests for reservation of rooms should be made to the Matron of Roble Hall.

Rooms in Encina Hall, furnished similarly to those in Roble Hall, but without board, cost from $6.00 to $6.50 per month, with two in a room. There are a few single rooms at $8.00 per month. Students occupying a double room alone pay the full price of the room. Each double room is furnished with two single beds. Requests for reservation of rooms should be made to the Clerk of Encina Hall.

Students may live outside the Halls only in places approved by the University.

In Palo Alto and College Terrace, at an average distance of a mile and a quarter from the University, rooms and board, in private houses, can be obtained, at from $25 to $35 per month. A considerable number of students live in co-operative clubs, in which the cost of board and room is reduced as low as $20 per month; such rooms are lighted and heated, but usually unfurnished. Special commutation tickets are issued by the Southern Pacific Company, and students living in towns on the line of the railway, from San Francisco to San Jose, easily go to and from the University daily. There is also trolley connection with San Jose, Los Gatos, and intermediate towns.

On arriving at the University, new students may obtain information of rooms and board at the Information Bureau conducted by the Christian Associations. A complete list of approved rooms and boarding places is printed in August. Particular inquiries may be addressed to the secretaries of the Christian Associations.

The University Inn, located near the Quadrangle, has dining accommodations for about three hundred students.

Books and stationery will average from eighteen to twenty-five dollars per year.

The necessary expenses of the student, exclusive of clothing and railway fares and of tuition fees in Law and Medicine, range from $350 to $500 per year.

The cost of living for students of Medicine in San Francisco is about the same as at Stanford University. There are numerous rooming and boarding houses near the medical buildings.

Self-Support of Students

A considerable number of students manage, in one way or another, to earn the whole or a part of their expenses while attending the University. Such opportunities occur in the line of office and laboratory assistance, personal services of numerous kinds, the management of various student enterprises, agencies for laundries, etc.

The Students Employment Bureau (in charge of the Christian Associations) registers without charge all students who apply for employment, and supplies employers with student labor as demanded. In general, the demand and supply are nearly equal, but the attention of new students who intend to earn the whole or part of their living is called to the following results of past experience:

1. There is a constant *over-supply* of those wishing to do teaching and clerical work. None but those having superior qualifications and experience are likely to secure employment the first semester.

2. There is a considerable demand for efficient stenographers and typewriters; also for men and especially women who can do domestic labor of any kind; board and room rent may be earned by waiting on table, washing dishes, general housework, house cleaning, gardening, etc.

3. Students who can do any kind of domestic or manual labor *well*, and who have thoroughly good health, can earn their board by three hours' work per day, or board and room by four hours' work per day. Those who are bookbinders, printers, mechanics, or carpenters, will have a decided advantage in obtaining employment. *But no student is advised to come to the University without resources sufficient for the expenses of one semester.*

4. The University curriculum is adapted to those who have control of their entire time for study. The student who must earn his living, therefore, should expect to take less than the usual amount of University work.

5. No student should come expecting to earn money, who can do nothing well; skill is absolutely essential, as competition is quite as severe in the college community as elsewhere.

6. Opportunities for earning money during the summer vacations can usually be counted on, the demand for canvassers being most constant.

Particular inquiries concerning opportunities for self-support should be addressed to the Secretaries of the Y. M. C. A. or Y. W. C. A. Upon arrival at the University new students should report for registration and information to the Information Bureau of the Associations.

Scholarships and Assistantships

There are a number of student-assistant positions in the various departments, held by either undergraduates or graduates, ranging in pay (in 1912-13) from eight at $500 each to twenty-five at $100 each, the average being $200. These do not include a considerable number of minor positions in laboratories or elsewhere where mere labor without skill or special knowledge is required, nor do they include those positions where the full time of the assistant is demanded. In 1912-13, fifty-three part-time assistant positions were held by graduate students, and sixty-six by undergraduates.

Each department selects and recommends for appointment its own assistants. Requests for information as to pay and duties and applications for appointment should be addressed to the Executive Head of the department in which a position is sought.

William Burton Barber Loan Fund

Mrs. Anna M. Barber, mother of William Burton Barber, '02, has established, in memory of her son, the William Burton Barber Loan Fund "to provide for needy and worthy students," and has presented to the University for this purpose the sum of three hundred dollars. This loan fund is available for men and women members of the senior class who have been registered in the University for at least one year, but not more than one hundred dollars shall be loaned to any one student. The loan is made on the personal note of the student and is payable to the University, without interest, not later than one year after the date of graduation, or withdrawal from the University. Applications for loans should be made by personal letter to the Academic Secretary, Stanford University.

Loan and Emergency Fund for Women

The Women's Conference has established a Loan and Emergency Fund for women students which is administered by a committee of the Conference, consisting, for 1914, of Florence Edetha Dunlop, '13, Laura Elizabeth Herron, '14, and Elizabeth Mayo Wheeler, '14. Applications should be made to the Dean of Women.

The Dickey Scholarship Fund

The Trustees of the University have received from the estate of the late W. J. Dickey, of Fresno, the sum of ten thousand dollars for the establishment of the Dickey Scholarship Fund "to aid young men from Fresno County, preferably from Fresno City, to make their way through Stanford University." The trustees of the Dickey Estate are Mr. Bernard Faymonville, Vice-President of the Fireman's Fund Insurance Company, San Francisco; Mr. E. A. Waldron, Cashier of the First National Bank of Fresno, and Mr. M. B. Harris, of the Fresno bar. During the lifetime of the Dickey trust these trustees will be consulted in the awarding of scholarships. Unused portions will be devoted to the establishment of a second fund for the same purpose.

Memorial Scholarship

The Leland Stanford Junior Scholarship, established by Mrs. Stanford, in 1900, pays the necessary expenses of its holder throughout the undergraduate course. A room in Encina Hall is especially reserved for occupancy by the holder of the scholarship.

The Joseph Bonnheim Memorial Fund

April 5, 1897, Albert Bonnheim and wife, of Sacramento, California, founded the Joseph Bonnheim Memorial Fund, for the purpose of assisting worthy boys and girls to receive an education, "having in view such preparation and training, scholastic and otherwise, as will make the beneficiary self-sustaining by whatsoever trade, profession, or calling may seem best adapted for such purpose in each case." Applications for scholarships to be awarded in accordance with the provisions of this fund should be addressed to the Trustees, care of Albert Bonnheim, Secretary, Sacramento, California.

The Alumni Jordan Scholarships

The Alumni Jordan Scholarship Fund has been founded largely by physicians who were at one time students of Stanford University. Its purpose is to pay the tuition fees of two or three medical students of high standing, with the understanding that at some future time the amount will be returned without interest. The student who once receives this scholarship loan will be entitled to its use throughout his medical course provided his work continues to be satisfactory.

The Bernard Scholarships in Entomology

Mrs. Matilda Bernard, widow of the late Henry M. Bernard of the University of Cambridge, England, has established two scholarships for 1912-13 and 1913-14. The purpose is to defray the expenses of a student who, under the direction of the Department of Entomology, shall devote his time to research work on the Chitinous Covering of Insects.

Thomas Welton Stanford Fellowship in Psychic Research

From the "Psychic Fund," created by Mr. Thomas Welton Stanford, of Australia, the Trustees have established the Thomas Welton Stanford Fellowship for Research in Psychic Phenomena.

Harvard Club Scholarship

The Harvard Club of San Francisco maintains a scholarship for the purpose of aiding graduates of the University of California and of the Leland Stanford Junior University to pursue graduate work at Harvard University. Appointments to this scholarship, the present income of which is $500, are for one year only. Applicants should state, in writing, their college course and their purpose and plans for the future. These applications should be in the hands of the Registrar on or before March 1st.

The Rhodes Scholarships

Under the will of the late Cecil Rhodes two scholarships are assigned to each State and Territory in the United States. Each scholarship has a yearly value of $1,500, and is tenable at any college in the University of Oxford for three successive academic years.

Candidates must be unmarried, must be citizens of the United States, and must be not younger than 19 nor older than 25 on October 1st of the year in which they are elected. All scholars shall have reached before going into residence, at least the end of their sophomore year at some recognized degree-granting university or college. In accordance with the wish of Mr. Rhodes, the trustees desire that "in the election of a student to a scholarship, regard shall be had to (1) his literary and scholastic attainments, (2) his fondness for and success in manly outdoor sports, such as cricket, football, and the like, (3) his qualities of manhood, truth, courage, devotion to duty, sympathy for and protection of the weak, kindliness, unselfishness, and fellowship, and (4) his exhibition during school days of moral force of character, and of instincts to lead and to take an interest in his schoolmates."

Students' Guild

The Guild is a student organization which seeks to make provision for the care of all cases of serious illness among its members. This is now accomplished for non-contagious diseases, through an arrangement with the Peninsula Hospital of Palo Alto. For the care of contagious diseases, provision has been made by the erection of a Detention Hospital on the University Campus.

All students are required to become members of the Guild by paying the fee, which is two dollars each semester. A uniform hospital rate of one dollar per day is charged all members of the Guild, in addition to such special charges as may be incurred for extra service.

GENERAL REGULATIONS

Registration

On the appointed Registration Days, in August and January, each student must obtain a certificate of registration *in person,* at the Registrar's office.

Matriculated students may register after the appointed Registration Days and during registration week, upon payment of a special fee of two dollars; during the week following the fee for late registration will be four dollars; after that the fee will be increased one dollar for each week's delay. Registration of undergraduates and specials will not be permitted later than one month after the beginning of instruction.

Study Card

At the Registrar's office the student receives a card for selection of studies for the semester. This card, properly filled out, and approved by the major department, must be filed with the Registrar at the time of registration; but late study cards will be accepted upon payment of a special fee of two dollars. Students registering late are admitted to particular classes only by permission of the instructors concerned. All work for which University credit is desired must be duly registered.

Enrollment in Classes

A student desiring to enter any class must present his certificate of registration to the instructor for enrollment at the beginning of each semester. Whether the student is qualified for enrollment in a particular class is a question to be decided by the instructor in charge. In general, the prerequisites for taking any given course are noted under "Courses of Instruction."

Change of Studies

A student desiring to drop a subject once taken up, or to take up a new subject after the study card has been filed, must present to the Committee on Registration a petition for such change, approved by the major department and by the instructors whose subjects are to be taken or dropped. In general, petitions so approved, if they do not give the student too many unit-hours, or too few unit-hours, and if presented within three weeks after the beginning of the semester, are

granted without question. If presented at a later time in the semester they will be granted only for extraordinary reasons, and, where the taking up of new subjects is involved, only on payment of a special fee of two dollars for each course; if otherwise acceptable but presented after the close of the semester, they will be granted only on payment of a special fee of four dollars for each course. In the case of petitions to drop subjects during the last six weeks of the semester, action will be deferred until the close of the semester.

Change of Major Subject

Petitions to change the major subject will be granted when approved by the departments in charge of both the old and the new subjects, the student being held to all the requirements of the new major subject. (First-year students may change their major subject at the end of the first or second semester without petition.) In general, the major subject may be changed at the end of the first year, and in some cases later, without appreciable loss of time to the student.

Amount of Work

Fifteen hours per week of recitations or lectures or an equivalent in laboratory work, constitutes an average semester's work. In general, students may register for as few as *thirteen* or as many as *eighteen* unit-hours; but in the case of students doing outside work for self-support or otherwise, and where considerations of health are involved, special restrictions will be made upon recommendation of the professor of hygiene; and where conditions or failures have been incurred in the preceding semester, not more than *fifteen* units may be registered unless by special permission of the Committee on Registration granted in advance. Permission to register for less than *thirteen* units may also be granted for special reasons; but registration for less than *ten* units will not ordinarily be accepted. Not more than eighteen units may be credited toward graduation for any semester's work, unless, in exceptional cases, permission to register for additional units is granted in advance. Graduate students are not held to any special number of unit-hours, but registration will not ordinarily be permitted unless such students are prepared to devote at least half of their working time to University study. Petitions for irregular registration should be presented at the beginning of the semester.

Every unit for which credit is given is understood to represent approximately, for the average student, three hours of actual work per week, through one semester. Thus, in lecture or recitation work, for

one unit of credit one hour per week may be allotted to the lecture or recitation and two hours for preparation or subsequent reading and study on the part of the student; but if a less amount of time is allotted for preparation or subsequent reading or study, there shall be a proportionate decrease in the amount of credit. Where the time is wholly occupied with drawing, field, or laboratory work, or in the class-room work of conversation classes, three full hours per week through one semester are expected of the student for each unit of credit; but where such work is supplemented by systematic outside reading or experiment under the direction of the instructor, such a reduction may be made in the actual drawing, field, laboratory, or class-room time as seems just to the department concerned.

Conditions and Failures

A student conditioned in any subject may arrange with the instructor concerned for such supplementary examinations or study as will make good the deficiency; but such deficiency must be removed within one year after the condition is incurred, otherwise the condition will be considered a failure. Work reported as incomplete may be made up during the first or second semester's registration after the incomplete is incurred; but if not made up until the second semester, the incomplete work shall be duly entered on the student's study card and shall count as part of the permitted registration for that semester to the extent of the actual unit-hours required for making up such incomplete work as estimated by the instructors concerned. A student failing in any subject cannot receive credit for the portion in which the failure is incurred until the subject has been re-registered and taken over again in class. A condition or failure or withdrawal from class without permission of the Committee on Registration, limits the student to *fifteen* units the semester following.

Mid-semester reports on scholarship are obtained from all instructors, and students reported as doing unsatisfactory work are notified of their deficiencies. A student whose work is unsatisfactory may be placed on probation at any time. At the middle and at the end of the semester each department shall be notified of all serious deficiencies in scholarship affecting students whose major work is in that department.

A student who receives passing grades in less than half the work for which he is registered during his first semester, or in less than two-thirds during any subsequent semester, shall be deemed to have failed in his studies. After a first failure, unless unusually serious, a

student may, with the approval of the major department, again register in the University, but shall be placed on probation for one semester. A second failure shall result in withdrawal from the University. Work marked "incomplete" will be considered of passing grade only when reported as satisfactory in quality and not seriously deficient in quantity.

A student whose delinquency is unusually serious, or is the result of persistent neglect, may be required to withdraw from the University at any time.

Leave of absence will not generally be granted to a student on probation, nor to any student whose work during the current semester is unsatisfactory, unless applied for at least six weeks before the end of the semester.

A student on probation may not take part in any intercollegiate contest, nor represent the University in any way, whether individually or in connection with any athletic, literary, musical, dramatic, or other organization.

From Special to Regular Standing

Special students may be entered in regular standing and become candidates for graduation, on passing examinations in the required number of entrance subjects, provided such examinations are passed not later than two years after matriculation. In place of entrance examinations, university work to the amount of five units for each entrance deficiency may be offered in university subjects which are also included in the entrance group.

A special student who has completed one hundred and fifty units of university work, including all major requirements, and whose general university record is deemed proof of superior scholarship, may become a candidate for graduation on approval of the Committee on Admission and Advanced Standing. Petitions to this end will not be considered by the Committee until after the student has completed one hundred and twenty units of university work.

University Credit for Extra Entrance Subjects

Credit toward graduation may be given for entrance subjects in excess of the number required for admission, provided such extra entrance subjects are also university subjects, and are successfully continued in the University within two years after matriculation, and provided the student's general University record is deemed proof of superior scholarship. In general, three units of advanced credit will be granted for each extra entrance unit representing elementary work in a given subject, and five units of advanced credit for each extra

entrance unit representing advanced work. Application for such university credit must be made within two years after matriculation. After matriculation additional entrance units may be offered only for the purpose of making up entrance deficiencies.

University Credit for Special Courses

Matriculated students on leave of absence may take work in other universities, usually without any restrictions other than those imposed by the institution in question. But work undertaken in any Summer Session may be subject to special regulations, and must be approved by the major department and by the department in which the work is to be taken.

Work of a special character taken outside of regularly scheduled classes, *in absentia* or during summer vacations, may be credited under the following conditions: (1) The work must be acceptable as part of the major requirements for the A. B. degree in the department by which it is authorized, must be authorized by the department faculty concerned, as well as by the instructor under whom it is to be carried on, must be given adequate supervision and direction and subjected to the same tests as in the case of regularly scheduled courses, and must be duly registered with the approval of the Committee on Admission and Advanced Standing; if not registered in advance, a fee of two dollars will be charged for late registration; (2) such work may not be offered to cover deficiencies due to poor scholarship; (3) a fee to the University of two dollars per semester unit must be paid before credit is entered.

The last semester's work of every candidate for a degree must be taken in this University; but in special cases, students who have obtained at least ninety units in resident work and who have completed all major department requirements may be exempted from this regulation and permitted to register for special courses under the provisions noted above.

Advanced Standing

Advanced standing for work done before matriculation will generally be given only when certified as having been completed in some institution of recognized collegiate rank, except as provided above for extra entrance units, or, in particular cases, to recommended graduates of approved State Normal Schools (see p. 64). But in special cases permission may be given by the Faculty to receive credit on examination for work equivalent to regular University courses. Application for

such examinations, with satisfactory evidence of the work accomplished, must be presented to the Committee on Advanced Standing. Applications for advanced standing on the basis of work done before entering the University must be made within two years after matriculation.

Leave of Absence

A student desiring to leave the University for a brief time should apply to the Committee on Registration. If leave of absence is desired on account of sickness, the petition must be indorsed by the professor of hygiene. A leave of absence is merely a justification of the absence and not a relief from the work that has been missed. A leave of absence is usually necessary only in case of interrupted work; a student in good standing absent one or more semesters may re-enter at the beginning of any semester without formal petition.

Honorable Dismissal

An honorable dismissal means that the student is permitted voluntarily to withdraw from the University and is commended to the favorable consideration of any institution he may wish to enter. An honorable dismissal may be granted upon written application to any student not under discipline for misconduct.

Conduct of Students

In the government of the University the largest liberty consistent with good work and good order is allowed. Students are expected to show both within and without the University such respect for order, morality, personal honor, and the rights of others as is demanded of good citizens. Failure to do this will be sufficient cause for removal from the University.

In 1908 the Board of Trustees of the University provided that in all future rentals or leases of houses as fraternity chapter houses it shall be expressly stipulated that no intoxicating liquors of whatever kind shall ever be sold or used on the premises. The Trustees also by formal resolution requested the Academic Council to prohibit the use of liquor in fraternity chapter houses, student club houses, and other student lodgings.

This action of the Board of Trustees is in harmony with the instructions given by the Academic Council to its Committee on Student Affairs, and defines the policy of the University. Prohibition of the use of liquor extends to all student lodgings whether on the campus or elsewhere. The University assumes that the act of registering as a student implies full acceptance of this policy

University Health Control

The University exercises an advisory control over student health affairs through the Committee on Public Health.

Every student upon entering the University is required to report for a brief examination. General health and evidence of effective vaccination are the important factors in the examination. Any condition which may place a limitation on the amount or kind of work planned by the student may be discussed with him or made the subject of a report to his major department or to the Committee on Registration.

Students intending to train for any of the athletic teams, or to register for gymnasium work, are required to pass a careful physical examination at the beginning of each semester.

A careful inspection of all boarding and rooming houses in the community is carried on under the supervision of the Public Health Committee, and only those are permitted to register who arrange to live in houses which have been approved.

Vaccination requirements.—Within two weeks of the day of registration every student must file with the Committee on Public Health a certificate, signed by the vaccinator, who must be a duly licensed and practicing physician, giving exact dates of vaccination, and showing either successful vaccination within seven years, or unsuccessful vaccination twice within the past twelve months.

Non-compliance with these requirements will result in a fine of two dollars after two weeks, and an additional fine of four dollars after four weeks, and cancellation of registration after six weeks from the day of registration.

All certificates should be filed in person at the office of the Committee on Public Health. They will be returned upon request. "Conscientious objections" will not be recognized as exempting anyone. Unavoidable delay, or failure to secure a satisfactory certificate, will not exempt anyone from the fine.

GRADUATION

CANDIDATES may present themselves for graduation in January, May, and September.

No degree will be conferred upon any person who has not spent at least one year in resident study at the University. No honorary degrees are given.

BACHELOR OF ARTS

The degree of Bachelor of Arts (A. B.) is conferred upon candidates who have satisfactorily completed a total of one hundred and twenty units of University work and who have also satisfied the requirements in major and minor subjects.

Thirty units constitute a normal year's work (see p. 76), but the ordinary class divisions (freshman, sophomore, junior, senior) are not recognized by the University. The degree is conferred whenever the requirements are met, without regard to the time spent, except that at least thirty units (including, except in special cases, the last fifteen) must be completed in this University.

Each student selects as a Major Subject the work of some one Department. The Major Department has the authority to prescribe not more than forty units in the Major Subject (exclusive of elementary courses in the Major Department which may be offered for entrance). The Major Department shall also recommend such other courses as it may consider desirable, and shall exercise an advisory supervision over the student's entire curriculum from semester to semester. Major Department supervision of the student's study lists shall be administered in the spirit of the major subject system, which is to provide the inexperienced student with necessary advice and direction while developing his power of initiative, and to accord to the mature student larger and larger responsibility in planning his own curriculum. It shall be considered a general principle of University policy, to be departed from only in exceptional cases, that at least sixty of the one hundred and twenty units required for the degree be taken outside of the Major Department.

In applied science the Major Department may prescribe so much of the entire one hundred and twenty units as it shall deem essential to the technical or professional requirements of the major subject.

A course in English Composition (English A) is prescribed for first-year undergraduates who do not satisfy the matriculation test.

Within these limitations the work in all departments is elective, and the student may freely choose any course which his previous studies have prepared him to undertake.

The recommendation of the Major Department is necessary to graduation.

(A student in regular undergraduate standing who does not intend to become a candidate for the A. B. degree, may choose, with the approval of the major department, any courses in the University which his previous training has prepared him to undertake.)

Bachelor of Laws

The degree of Bachelor of Laws (LL. B.) is conferred upon candidates who have satisfactorily completed two years (sixty units) of non-professional study in the pre-legal curriculum and three years of professional study in the law school.

Candidacy for Advanced Degrees

Candidates must be registered in the University and must file a statement of their candidacy with the Registrar. The approval of a programme of study by the Department Faculty concerned and by the Committee on Graduate Study constitutes formal admission to candidacy. Only under exceptional circumstances will a programme of work be approved which is received later than six weeks after the beginning of the academic year in which the degree is to be taken. It is advisable that such programme be filed as early as possible in the student's course. No advanced degree will be conferred except upon the recommendation of the Committee on Graduate Study.

Master of Arts

The degree of Master of Arts (A. M.) is conferred on graduates of this University, and on others who have had an equivalent training elsewhere, upon the satisfactory completion in residence, of one year of work beyond the baccalaureate requirements of the department in which the degree is sought, and upon the presentation of an approved thesis, and the passing of such general or final examination as the major department may require. A longer period of residence will be required of candidates who are inadequately prepared or who devote less than the normal amount of time to their graduate course. Work may be done in connection with the regular courses of instruction or, as research, independently of them. The programme of study must

form a consistent plan of work pursued with some definite aim whether it lies wholly in a single department or field of study, or in more than one. At least two-thirds of a year's work must be devoted to advanced or graduate work in the major study or in intimately allied subjects.

Special regulations are:

1. A report upon the character of the work done shall be made by each instructor under whom a candidate is registered.

2. A candidate for the degree of Master of Arts must display ability to do independent work.

3. The Master's thesis, bearing the approval of the instructor under whose supervision it was prepared, must be submitted to the Committee on Graduate Study by the date on which instruction closes for the semester in which the degree is taken; upon acceptance, it shall be suitably bound and placed in the University Library.

Engineer

In the Department of Applied Science the professional degree of Engineer is conferred on graduates of this University, and on others who have had an equivalent training elsewhere, upon the satisfactory completion, in residence, of one year of professional study beyond the baccalaureate requirements of the department in which the degree is sought, and upon the presentation of an approved thesis, showing ability to do independent work. Upon the recommendation of the Department, and in order to permit the carrying on of advanced work with equipment or under conditions not available at the University, the requirement of residence may in part be waived.

The special regulations stated above for the degree of Master of Arts apply also to the degree of Engineer.

Juris Doctor

The degree of Juris Doctor (J. D.) is conferred on students who have previously received the academic degree of Bachelor of Arts, or an equivalent degree elsewhere, upon the completion of the three years' professional law course. The first year of the professional law course may be taken by candidates for the A. B. degree.

Doctor of Medicine

The degree of Doctor of Medicine (M. D.) is conferred on students who complete the four years' course in Medicine based upon the three years' pre-medical course as laid down by the University.

Doctor of Philosophy

The degree of Doctor of Philosophy (Ph. D.) is conferred on graduates of this University, and on others who have had an equivalent training elsewhere, upon the satisfactory completion of at least three years of graduate work, beyond the baccalaureate requirements of the department in which the degree is sought, under the following conditions:

1. At least the last year of study must be spent in residence at this University.

2. At least one year prior to the date when the degree is sought, the candidate must show a reading knowledge of French and German in his special literature. The faculty of the department in which the major work is taken determines whether this requirement has been met.

3. The programme of study must include one major subject and one or two minors. The minor subject or subjects shall represent approximately one-third of the programme of study; except that such minor subjects may be waived upon the recommendation of the major subject department, if approved by the Committee on Graduate Study, when the breadth and extent of the candidate's training justify such a course,—in which case the candidate will be expected to show such breadth of training in his oral examination.

4. The candidate must present a thesis at least six weeks before the close of the semester in which the degree is sought, in form and content acceptable to his department and to the Committee on Graduate Study. He must guarantee the printing of the thesis within one year after the degree is conferred and the deposit of one hundred copies in the Library.

5. In addition to satisfying the requirements of major and minor departments, the candidate must submit to an oral test or examination by a special examining committee of the Faculty and in the presence of such other members of the Faculty as care to attend. The special examining committee consists of (1) the professors of the major-subject department with the executive head of that department acting as chairman, (2) the one or more professors in charge of the minor subject or subjects, (3) two members of the Committee on Graduate Study whose departments lie nearest that of the major professor, and (4) the Chairman of the Committee on Graduate Study, acting as its secretary. The Committee may at its discretion invite other members of the Faculty to participate in the oral examination.

Advanced Degrees in the Medical Department

The Divisions of the Medical Department are considered as equivalent to other departments of the University in respect to candidacy and requirements for the degrees of Master of Arts and Doctor of Philosophy, and all the foregoing regulations apply to these divisions and division faculties as to departments and department faculties, with the following modifications and limitations:

1. Candidates for these degrees must have received the degree of A. B. at Stanford, or an equivalent degree elsewhere, and must have completed all requirements for admission to the Department of Medicine, and such other requirements as each division faculty may prescribe.

2. Time spent in candidacy for the degree of Master of Arts or Doctor of Philosophy will not be counted toward the degree of Doctor of Medicine.

3. Candidates for these degrees in the divisions of Medicine, Surgery, and Obstetrics and Gynecology, must have received the degree of Doctor of Medicine.

The High School Teacher's Certificate

County, and City and County Boards of Education are authorized to grant High School Certificates (under Sections 1521, 1775, and 1792 of the Political Code of California) to candidates recommended by the University as having fulfilled the requirements laid down by the State Board of Education, and provided the institutions concerned "shall each certify to the high character of the work accomplished under its direction, and to the personal fitness of the candidate."

The requirements laid down by the State Board of Education will be met by accomplishing the work outlined in either of the following groups:

Group I

1. Graduation from a college requiring not less than eight years of high school and college training.

2. One year of graduate study in a university accredited by the California State Board of Education, part of the time at least being devoted to one or more of the subjects taught in the high school.

(The "year of graduate study" at Stanford will be fulfilled (*a*) when the candidate has received the degree of Master of Arts, or (*b*) when the candidate has completed twenty-six units of university work (four

of which may be the practice teaching named below). At least one advanced or graduate course in the major department, of not less than four units, must be taken.)

3. Eight hours per week for one-half school year in the Department of Education, taken as a part of either the graduate or undergraduate course.

4. Practical teaching, equivalent to at least four hours per week for one-half school year, in a well-equipped school of secondary grade directed by the Department of Education of any of the accredited universities or in a school of grammar or secondary grade in connection with a California State Normal School, or under the direction of the Department of Education of the University of California, or of the Leland Stanford Junior University.

Group II

1. Graduation from a college requiring not less than eight years of high school and college training.

2. One-half year of graduate study in a university accredited by the California State Board of Education, part of the time at least being devoted to one or more of the subjects taught in the high school.

(The "half year of graduate study" at Stanford will be interpreted as thirteen units of university work, including one advanced or graduate course in the major department of not less than two units.)

3. (*a*) Graduation from a California State Normal School or other normal school officially recognized by the State Board of Education as of equivalent rank; *or* (*b*) twenty months' experience with decided success as a regular teacher or as principal in any reputable school, elementary or secondary; *or* (*c*) six months as student teacher in a well-equipped school of secondary grade directed by a California State Normal School, or its recognized equivalent, or in a school of grammar or secondary grade in connection with a California State Normal, or under the direction of the Department of Education of the University of California, or of the Leland Stanford Junior University.

The University Recommendation

In addition to the technical requirements prescribed by the State Board of Education the University will require, as preliminary to any recommendation for the high school teacher's certificate, the completion of enough work (and of sufficiently high grade), in at least one subject, to secure a Department recommendation that the candidate is fitted to teach the subject in high school classes.

The Department requirements for such recommendation are, in most cases, stated in the Register under the Department headings; but each candidate *should find out definitely* from the Departments concerned, not later than the beginning of the Senior year, preferably earlier, the particular requirements which must be met.

It is advisable that every candidate for the teacher's recommendation should endeavor to fulfil the Department requirements in at least *two* high school subjects.

For information and advice as to possible and desirable combinations of subjects for high school positions, students are invited to consult the Appointment Secretary as early in their course as possible.

The Grammar School Teacher's Certificate

Under Section 1775 of the Political Code of California, as amended March 1909, County Boards of Education are authorized to grant, without examination, grammar school certificates "to holders of diplomas of graduation of the four-year course of the University of California or Leland Stanford Junior University when said holder of such diploma shall have had six months' training in one of the State Normal Schools of this State or has had eight months' successful experience in teaching in the public schools of California after graduation."

Under Section 1543 of the Political Code of California, as amended March 1909, County Superintendents of Schools are authorized "to issue temporary elementary certificates valid for two years to graduates of the University of California and to graduates of the Leland Stanford Junior University"; but "no person shall be entitled to receive a temporary certificate more than once in the same county."

Appointment Registry

The University endeavors (1) to keep a record of students and graduates who wish to teach, or to be transferred to other teaching positions, and (2) upon application of school and college officials, to recommend for suitable vacancies such candidates as seem most likely to succeed.

The University aims to obtain complete information with regard to the scholarship, experience, and personal qualifications of each candidate, and reports from instructors and others concerning the fitness of candidates are filed in the office of the Appointment Secretary. Such information is regarded as confidential, and general letters of recommendation are not given. Copies of such credentials as are on file

will be mailed to school and college officials, at their request, or at the request of the candidate concerned. But the University reserves the right of refusing to extend its coöperation to students when they apply for positions for which they are manifestly unfit. Official recommendations for positions are made only upon request of those in authority. Letters requesting such recommendations should state explicitly the subjects to be taught, the salary to be paid per year, and the time when the engagement is to begin.

While the services of the Office have been called for mainly in connection with school and college positions, there is an increasing number of requests for persons in other types of employment—stenographers, secretaries, librarians, bacteriologists, social and playground workers, and the like. The Office has therefore undertaken to collect information regarding the vocational training and experience of such students as may desire to register with the Committee.

Blanks for registration may be obtained of the Appointment Secretary, at the Registrar's office, and should be filled out each year, preferably during February or March.

Communications should be addressed to the Appointment Secretary, Stanford University, California.

COURSES OF INSTRUCTION

[The superior figure [1] before name of assistant or instructor indicates first semester; [2], second semester.]

GREEK

†Augustus Taber Murray, Professor.
Ernest Whitney Martin, Associate Professor.
Mabel Adella Brekke, Assistant.
John Daniel Cooke, Eleanor McKee Wyman, Undergraduate Assistants.
[With the co-operation of Professor Fairclough of the Department of Latin.]

Undergraduate Courses

Instruction in the lower classes is given chiefly by means of recitations, but as the student advances these are supplemented by lectures. In courses 1, 2, 3, 13, and 14 the work is arranged so as to provide as far as possible individual instruction for each student. In this way it has been found possible to read more widely, while at the same time there is a distinct gain in thoroughness.

The Teacher's Recommendation.—Courses 2, 3, 4, 5, and 15 (or equivalents) constitute the minimum requirement for the high school teacher's recommendation in Greek.

1. **Elementary.**—Grammar; translation of easy prose; Greek composition. After the essential grammatical forms have been mastered, the students are led to read as widely as possible in simple narrative prose, including Xenophon's Anabasis, selections from the Gospels, and Cebes' Tablet. The course includes systematic drill in the ordinary forms of syntax, and exercises in writing Greek are regularly introduced.

MTWThF 1:30 3 to 5 units, both semesters (Cooke)

2. **Simple Attic Prose.**—Selections from prose writers, adapted to the needs of individual students. Open to those who have offered Greek for entrance, or who have completed course 1 in the University. Students who have completed course 14 may take this course on recommendation of the instructor. In this course each student meets regularly with one of the instructors for direct personal instruction.

MWF 8:15 3 units, 1st semester (Brekke)

†Absent on leave, 1913-14.

3. **The Odyssey.**—A continuation of course 2 similarly conducted.
MWF 8:15 3 units, 2d semester (BREKKE)

4. **Prose Composition.**—Systematic training in the writing of simple Greek with exercises in sight translation. Required of Greek major students in connection with courses 2 and 3.
TTh 8:15 2 units, both semesters (MARTIN)

5. **Homer.**—The reading of large portions of the Iliad, with discussions of Homeric problems from time to time. Open to students who have completed courses 2 and 3, or an equivalent.
MWF 10:15 3 units, 1st semester (BREKKE)

6. **Greek Literature.**—Representative types, tracing the development of Greek literature, partly in the original and partly in translation. Lectures are given form time to time by instructors in the Department.
MWF 11:15 3 units, 2d semester (MARTIN)

7. **Modern Greek.**—Simple lessons in the Grammar, followed by reading.
TTh 9:15 2 units, both semesters (MARTIN)

9. **Demosthenes.**—A study of the De Corona. [Not given in 1913-14.] 2 units, 1st semester (MARTIN)

10. **Thucydides.**—The expedition against Sicily, Books VI and VII. [Not given in 1913-14.] 3 units, 2d semester (MARTIN)

11. **Greek Tragedy.**—The Prometheus Bound and Agamemnon of Aeschylus, with the Antigone and Ajax of Sophocles, read and interpreted, with lectures on Greek dramatic art from time to time.
MWF 11:15 3 units, both semesters (FAIRCLOUGH)

12. **Greek Testament.**—The first semester is devoted to the study of the Gospels, with especial reference to the synoptic tradition; the second semester to the study of the letters of Paul.
TTh 11:15 2 units, both semesters (MARTIN)

13. **Rapid Reading.**—The student and instructor meet weekly for individual reading in easy Greek, suited to the student's particular needs. Open to all who have had at least one semester of Elementary Greek. 1 to 3 units, both semesters
By arrangement (MARTIN, BREKKE, COOKE, WYMAN)

14. **Introductory.**—An introduction to the study of the Greek language leading up to the reading of easy prose. Simple exercises in the writing of Greek are regularly introduced.
MTWThF 2:30 3 to 5 units, 2d semester (MARTIN)

15. **Teachers' Course.**—Lectures with practical exercises. [Not given in 1913-14.] 2 units, 2d semester (MURRAY)

16. **History of Greece.**—A general outline course.
MWF 8:15 3 units, 1st semester (MARTIN)

17. **Lyric Poetry.**—Selected readings accompanied by lectures. [Not given in 1913-14.] 2 units, 2d semester (FAIRCLOUGH)

GRADUATE COURSES

The center of the Graduate work is the Greek Seminary—made up of the director and such students as satisfy him of their fitness for the work. The Seminary meets weekly for the critical interpretation of some Greek author, the different members, in turn, filling the post of interpreter. Topics for investigation are assigned, and papers prepared by the members are read and discussed.

Members of the Seminary are expected to supplement their critical work by wide reading, and lectures on the author or authors under discussion are given by the director. It is in the highest degree desirable that all members of the Seminary should be able to read both French and German, and this is indispensable in the case of those who are candidates for the degree of Doctor of Philosophy.

18. **The Greek Seminary.**—In 1913-14 the Seminary was occupied with the study of Euripides.
W 3:30 1 unit, both semesters (MARTIN)

19. **Rapid Reading.**—Graduate and advanced students meet weekly for the reading of Euripides.
M 3:30 2 units, both semesters (MARTIN)

SPECIAL LECTURES

Throughout the year lectures are given twice weekly, on Greek Epic and Dramatic Poetry, and on Greek Sculpture. These lectures are intended for general students, and do not presuppose a knowledge of Greek; they do not count as part of the major work for students in Greek. The courses are not open to incoming freshmen.

20. **The Greek Epic.**—[Not given in 1913-14.]
TTh 10:15 2 units, 1st semester (MURRAY)

21. **Greek Tragedy.**—[Not given in 1913-14.]
TTh 10:15 2 units, 2d semester (MURRAY)

22. **Greek Sculpture.**—Lectures, illustrated with photographs and lantern slides, on the history and character of Greek sculpture.
TTh 11:15 2 units, 1st semester (FAIRCLOUGH)

LATIN

HENRY RUSHTON FAIRCLOUGH, Professor.
JEFFERSON ELMORE, BENJAMIN OLIVER FOSTER, Associate Professors.
WILLIAM CHISLETT, JR., [2]MOLLIE MARGARET HOWE, JEROME WILLIS MCNAIR, Graduate Assistants.

[With the co-operation of Associate Professor MARTIN of the Greek Department, and of Professor HEMPL of the Department of Germanic Languages.]

UNDERGRADUATE COURSES

The aim of the undergraduate courses in Latin is to give the student a somewhat systematic knowledge of the language and its development, an acquaintance with the representative authors of Latin literature, and some insight into the life, culture, and civilization of ancient Rome.

The Department recognizes two classes of major students: (1) those who wish to pursue a course of liberal studies, including Latin as a prominent feature; (2) those who, expecting to teach Latin, desire to be properly equipped for that purpose.

Students who wish to qualify for teaching Latin must take courses 2, 4, 5, 6, 7, 8, 9, and 17, together with such other courses as are recommended by the Department. To other students more freedom of choice is allowed.

1a. Introductory.—The course is given for students who desire at least one year of Latin and for those who wish to begin the subject with a view to further study. The class is conducted by the Direct Method.

MWF 10:15 3 units, both semesters (ELMORE)

1. Virgil and Cicero.—Virgil, selected books of the Æneid; Cicero, selected orations. This course is planned for those who have passed in 1*a* or entrance subject 21*a*.

MWF 11:15 3 units, both semesters (MCNAIR)

2. Terence, Cicero, and Horace.—Terence, Andria; Cicero, De Senectute; Horace, Odes and Epodes; selections from Catullus. Open in either semester to students who have completed course 1, or who have offered entrance subject 21*b*. Two sections.

MWF 8:15, 9:15 3 units, both semesters (FOSTER, ELMORE)

3. Justinian.—The Institutes of Justinian are read both as a training in language and as an introduction to some conceptions of Roman

law. The course is useful to all who desire a first-hand knowledge of Roman law and of the origins of European social institutions. Open to any students who have had two years of Latin.

TTh 10:15 2 units, both semesters (Fairclough)

4. Prose Composition I.—Practical exercises and rapid reading of easy prose. Open in either semester to first-year students.

TTh 9:15 2 units, both semesters (Elmore)

5. Horace.—Satires and Epistles. Open to those who have completed course 2 or 3, or an equivalent. Attention is directed especially to the style and subject matter, to Horace's influence on later literature, and to the salient features of the Augustan age.

MWF 10:15 3 units, 1st semester (Martin)

6. Livy and Tacitus.—Selections from Livy's History; the Agricola of Tacitus. This course, complementary to course 5, involves a survey of Roman history and the literature of the early empire.

MWF 10:15 3 units, 2d semester (Martin)

7. Prose Composition II.—Open to students who have taken course 4, or an equivalent. Practical exercises in the oral and written use of Latin.

TTh 9:15 2 units, both semesters (Foster)

8. Roman Comedy.—The Trinummus and the Captivi of Plautus, and either the Menaechmi or Terence's Hauton Timorumenos. Attention is paid to early forms, constructions, and meters, and to the staging of a Roman play, with some consideration of the later history of comedy.

MWF 8:15 3 units, 1st semester (Fairclough)

9. The Letters of Cicero.—Selections from the correspondence are read with a view to obtaining a conception of Cicero's character as a man and to becoming acquainted, as far as possible, with the social and political conditions of the time.

TTh 11:15 2 units, 2d semester (Fairclough)

10. Pliny.—Selections from the works of the younger Pliny. [Not given in 1913-14.] 2 units, 1st semester

11. Roman Elegy.—The course is devoted chiefly to Tibullus and Propertius. [Not given in 1913-14.] 3 units, 2d semester.

12. Lucretius.—Selections from the De Rerum Natura are read with particular attention to the philosophic thought and its poetic treatment.

MWF 11:15 3 units, 2d semester (Foster)

13. Prose Composition III.—A course for advanced students and prospective teachers. In 1912-13 the work consisted of practice in Latin conversation. [Not given in 1913-14.]

2 units, 2d semester

14. Juvenal and Martial.—Selections from the Satires of Juvenal and the Epigrams of Martial, with supplementary reading in other writers of the first century.

TTh 9:15 2 units, 1st semester (Elmore)

15. Christian Latin.—Selections from Minucius Felix and other Christian literature. [Not given in 1913-14.]

2 units, 2d semester

16. Quintilian.—Book X. Rhetoric and literary criticism among the Romans. [Not given in 1913-14.] 2 units, 2d semester

17. Teachers' Course.—Lectures on methods of teaching Latin, with practical exercises. Open only to advanced students.

M 2:30-4:30 2 units, 1st semester (Elmore)

18. Cicero's Philosophical Works.—Selections from the Tusculan Disputations and the other philosophical works are read with special reference to Cicero's Greek predecessors. [Not given in 1913-14.]

2 units, 2d semester

19. Roman History from the Sources.—Tacitus' account of the reign of Claudius and Nero, with supplementary reading.

3 units, 2d semester (Foster)

Graduate Courses

These courses are open to graduates in Latin who have had at least two years' undergraduate work in Greek. The ability to read French and German is also very desirable, and, in the case of candidates for the degree of Ph.D., necessary. The aim of the courses is to give the student a thorough grasp and detailed knowledge of particular authors, and of certain periods and fields of literary activity, as well as a training in literary criticism, and an acquaintance with the methods of original research.

22. Latin Seminary.—In 1913-14 the Seminary was devoted to Plautus and Terence. Most of their plays were read and various selections interpreted. Special attention was paid to the subject of colloquial Latin, and to the influence of Roman comedy on modern literature. Students should provide themselves with a complete text of Plautus, as published by the Clarendon Press.

F 2:30 2 to 6 units, both semesters (Fairclough)

23. Rapid Reading.—A weekly session for the reading of all the works of Plautus and Terence.

T 2:30 2 units, both semesters (FAIRCLOUGH)

24. Petronius and Apuleius.—The Cena Trimalchionis, and selections from Apuleius.

MWF 11:15 3 units, 1st semester (FOSTER)

25. Introduction to Latin Palaeography.—Lectures and practice in reading facsimiles of manuscripts.

W 9:15 1 unit, 1st semester (FOSTER)

26. Introduction to Latin Epigraphy.—Lectures and readings in Dessau's Inscriptiones Latinae Selectae. [Not given in 1913-14.]

2 units, 2d semester

28. Etruscan.—Lectures on the nature of the language and its relation to other Italic dialects.

Th 2:30 2 units, 2d semester (HEMPL)

SPECIAL COURSES

29. History of Rome.—A general course, open to all students.

MWF 8:15 3 units, 2d semester (ELMORE)

30. Studies in Roman History.—The course takes up the consideration of special problems. Open by permission of the instructor to those who have had Latin 29 or an equivalent.

TTh 8:15 2 units, 1st semester (ELMORE)

31. Roman Art and Archaeology.—A survey of the topography, architecture, sculpture, and other art-forms of ancient Rome, illustrated with lantern-slides. This course is intended mainly for major students in Latin and Greek, but is open also to students in History and Art. Others must receive special permission from the instructor before registering. 2 units, 2d semester (FAIRCLOUGH)

32. Roman Private Life.—Lectures, illustrated with lantern-slides from ancient art and other sources. Open to major students in Latin, Greek, and History, and to upper classmen in other departments. [Not given in 1913-14.] 2 units, 1st semester

33. Latin Literature.—Lectures on the principal poets and prose writers, with assigned readings in English translations.

Th 11:15 2 units, 1st semester (FOSTER)

34. Classical Influences in English Literature.—Supplementary to course 33.

TTh 11:15 2 units, 2d semester (CHISLETT)

GERMANIC LANGUAGES

George Hempl, James Owen Griffin, Professors.
Karl Gustav Rendtorff, William Alpha Cooper, Macy Millmore Skinner, Associate Professors.
Bruno Boezinger, †Hermann Hilmer, Assistant Professors.
Friedrich Alexander Wyneken, Instructor.
Anetta Haffner Hilmer, Teaching Assistant.

The advanced courses are intended both for the maturer undergraduate and for candidates for the degrees of Master of Arts and Doctor of Philosophy. Special consideration is given to the needs of those who intend to make the teaching of German their profession. Graduate work in the Germanic languages is facilitated by the opportunities offered by the library of the late Professor Hildebrand of Leipzig, which contains a rich and well-chosen collection of works on German philology and literature. This forms the nucleus of the department library, which is being rapidly developed.

The attention of all students of German is called to the course in the history of Germany, given as course 12 in the Department of History. This should be taken as early as possible.

Students who intend to teach German are expected to take at least courses 3, 6, 7, 8, 13*b*, 14, 16, 22, and either 9, 10, or 11. It is important that the student heed in time what is said in the notes to courses 2 and 13, and the note above course 9.

1. Elementary.—It is the object of this course to put the learner in possession of the elements of the German language. This implies: (1) a personal command of simple German, that is, the ability to understand such German whether heard or read, and to employ the language in simple conversation, narration, and description, both orally and in writing; (2) such a ready familiarity with the elements of German grammar as is essential for the attainment of this command of the language. 5 units both semesters

MTWThF 8:15, 10:15, 11:15 (Cooper, Skinner, Wyneken)

2. Second-year German.—(See note below.)

a. Reading.—Texts suitable for the second year; for the most part, the writings of contemporary authors.

MWF 8:15, 9:15, 10:15, 11:15 3 units, both semesters

(Hempl, Griffin, Skinner, Wyneken, A. Hilmer)

†Absent on leave, 1913-14.

aa. Scientific Reading.—Texts selected with a view to preparing scientific students to read technical literature.

MWF 10:15, 11:15 3 units, both semesters . (BOEZINGER)

b. Reproduction and Production, oral and written.—The work of this course is intended to assist the pupil in getting a personal command of German, both spoken and written; with it is correlated a thorough review of the elements of the grammar.

TTh 8:15, 9:15 2 units, both semesters (GRIFFIN, BOEZINGER)

[*Note.*—Students expecting to continue the study of German beyond the second year are supposed to have completed both *2a* and *2b* or an equivalent.]

3. Classical German Drama.—This course aims chiefly to be an introduction to the spirit of the classical German drama; but throughout the course an effort is also made to familiarize the student, by means of various selected readings, with the life and character of the German people.

MWF 8:15 3 units, both semesters (GRIFFIN, RENDTORFF)

4. Modern German Drama.—Lectures in connection with the interpretation and rapid reading of some of the more important works of the modern dramatists.

TTh 8:15 2 or 3 units, both semesters (GRIFFIN)

5. Modern German Novels.—The reading of standard modern novels, with lectures on the development of the novel.

TTh 9:15 2 or 3 units, both semesters (SKINNER)

6. Advanced German Grammar.—A systematic presentation of the important facts of German grammar, together with individual investigations of the usage of various writers.

a. Orthography, Phonology, and Morphology.

TTh 1:30 2 units, both semesters (HEMPL)

b. Syntax.

TTh 10:15 2 units, both semesters (COOPER)

7. German Composition.—By composition is meant, not translation from English, but practice in putting one's thoughts into acceptable written German.

TTh 9:15, 11:15 2 units, both semesters (BOEZINGER, WYNEKEN)

8. Advanced Composition.—

MW 8:15 2 units, both semesters (BOEZINGER)

[*Note.*—Students wishing to take up any of the three following courses (9, 10, 11) will be expected to have such preparation as can be obtained by pursuing courses 3 and either 4 or 5.]

9. Lessing.—Lectures on Lessing's life and times, with reading and discussion of his principal works. [Not given in 1913-14.]
3 units, both semesters

10. Schiller.—Lectures on Schiller's life, together with the interpretation and discussion of his writings.
TTh 8:15 2 or 3 units, both semesters (SKINNER)

11. Goethe.—Course conducted in German.
a. Goethe's life and works. [Not given in 1913-14.]
3 units, both semesters (COOPER)
b. Goethe's Faust: Urfaust, Fragment of 1790, Part First and Part Second.
MWF 10:15 3 units, both semesters (COOPER)

13. The History of German Literature.—Lectures and readings.
a. From the earliest times to the eighteenth century. [Not given in 1913-14.] 2 units, both semesters (RENDTORFF)
b. The eighteenth and nineteenth centuries.
TTh 8:15 2 units, both semesters (RENDTORFF)

[*Note.*—Students electing course 13 are expected to have pursued a general course in the history of English literature and to be able to read German with facility.]

14. Teachers' Course.—Lectures on the various methods employed in teaching modern languages, together with practical advice in the matter of conducting classes.
T 2:30-4:30 2 units, 1st semesters (HEMPL)

15. The Genesis of Grammar.—Lectures on the origin and development of the parts of speech and of other grammatical apparatus.
Th 2:30-4:30 2 units, 2d semester (HEMPL)

16. Middle-High German.—Grammar and selected texts (first semester); Walter von der Vogelweide (second semester).
MW 9:15 2 units, both semesters (RENDTORFF)

16b. Advanced Middle-High German.—
Th 2:30-4:30 2 units, both semesters (RENDTORFF)

17. Old-High German.—
T 2:30-4:30 2 units, both semesters (BOEZINGER)

18. Old Norse.—[Not given in 1913-14.]
2 units, 2d semesters (HEMPL)

19. Gothic.—[Not given in 1913-14.]
2 units, both semesters (BOEZINGER)

20. The Runes.—Lectures on the origin and development of primitive Germanic writing. [Not given in 1913-14.]

2 units, 1st semester (HEMPL)

21. The History of German Civilization.—Lectures with stereopticon. This course is intended for students of German who wish to become acquainted with the development of German civilization in its relation to German literature.

W 2:30-4:30 2 units, both semesters (RENDTORFF)

22. The History of Germany.—[See course 12 in the Department of History, and the note at the beginning of this section.]

23. Thesis Course.—Special investigations and reports intended primarily to furnish undergraduates a training in preparation for original research work. Under the direction of the various members of the staff. Credit subject to individual adjustment.

[See also course 28 in the Department of Latin.]

ROMANIC LANGUAGES

OLIVER MARTIN JOHNSTON, Professor.

COLBERT SEARLES, †CLIFFORD GILMORE ALLEN, †ALBERT LÉON GUÉRARD, Associate Professors.

AURELIO MACEDONIO ESPINOSA, Assistant Professor.

ROBERT EDOUARD PELLISSIER, LOUIS PETER DE VRIES, Instructors.

GEORGE LOUIS LAWRENCE, Teaching Assistant.

JEANNE RÔSE ROUILLER, Assistant.

MATILDA FLORENCE ALLEN, ISABEL VENARD, Graduate Assistants.

DOROTHY PARKS GUNNELL, GLADYS ADELAIDE LA FETRA, Undergraduate Assistants.

The undergraduate courses in the Romanic Languages are planned so as to give students an intimate acquaintance with the modern forms of the languages spoken in the principal neo-latin countries. To this end systematic attention is paid to pronunciation, reading, syntax, and conversation. In the higher courses special emphasis is laid on the study of literature. In order to give students an opportunity to become familiar with the spoken idioms, several of the advanced courses are conducted as far as possible in the language which forms the object of study.

The Department recognizes two classes of major students: (1)

†Absent on leave, 1913-14.

students who expect to teach French or Spanish and who wish to take up the study from the point of view of the specialist; (2) students who desire to group a course of study of a general nature around that of French or Spanish.

Either French or Spanish may be selected as a major subject. In French the minimum requirement consists of courses 2, 3, 4, 5, 6, 7, 8, 9, and 10. In Spanish the same requirement includes courses 14, 15, 16, 18, 19, and 21.

In addition major students who intend to teach either French or Spanish will be expected to take Latin 1, 2 and 4, German 1 and 2, and Elementary French or Spanish or Italian.

The Teacher's Recommendation.—The minimum requirement for the High School recommendation is as follows: In French—courses 2, 3, 6, 7, and 8; in Spanish—courses 14, 15, 16, 18, 19, and 21. The Department will insist also on course 28. Recommendations will be given only on the vote of the Department, and will demand a degree of scholarship above the ordinary passing mark.

1a. Elementary French.—Fraser and Squair, French Grammar, with written and oral exercises and systematic training in French pronunciation on the basis of Matzke's Primer of French Pronunciation; Aldrich and Foster's French Reader.

MWF 9:15, 11:15 3 units, both semesters (De Vries)

1b. Elementary French, Reading Course.—The course is intended for students who merely desire to obtain a reading knowledge of the language. Aldrich and Foster, Foundations of French; Aldrich and Foster's French Reader; Mérimée, Colomba.

MWF 11:15 3 units, both semesters (Searles)

[Courses 1*a* and 1*b* are continuous courses, open to all, but students desiring to enter after the end of the second week will be admitted only upon special examination.]

2. French Composition and Conversation.—The course will be conducted as far as practicable like the corresponding course in English composition, a part of each hour being devoted to conversation. Open to students who have completed course 1*a*, or who have received credit for entrance subject 6*a*. 3 units, both semesters

MWF 8:15, 10:15 (Pellissier, De Vries)

3. Modern French Reading.—Translation of selected texts in prose and verse. Open to students who have completed course 1*a* or course 1*b*, or who have received credit for entrance subject 6*a*.

TTh 9:15, 11:15 2 units, both semesters (Pellissier, De Vries)

4a. French Pronunciation.—Practice in French pronunciation with the phonograph, open to students registering for course 2. One class exercise and two practice hours each week for one semester.

T 2-3 1 unit, either semester (SEARLES)

4b. Course in Reading Aloud.—Open to students on permission. Corresponds to English course 1b. Two hours per week recitation, with a certain amount of outside preparation.

TTh 10:15 1 unit, either semester (SEARLES)

[Courses 2, 3, and 4 constitute the second year's work in French, and should, if possible, be taken during the same year. Course 4 may not precede course 2.]

5. Reading and Writing of French.—Vreeland and Koren, French Syntax and Composition. An intermediate course in reading and composition intended primarily for students entering with entrance subjects *6b* or *6c*.

MWF 11:15 3 units, both semesters (PELLISSIER)

6. Advanced French Prose Composition.—Translation into French of selected English prose. Open to students who have completed course 2 or course 5.

TTh 10:15 2 units, both semesters (PELLISSIER)

7. Outline Course in the History of French Literature.—Lectures, supplemented by reading and reports by the members of the class. Not open to Freshmen. Prerequisite: course 3 or course 5.

MWF 10:15 3 units, both semesters (SEARLES)

8. Classical French.—A study of the principal authors of the classical period. Representative texts will be read from the works of Corneille, Racine, Molière, Voltaire, Le Sage, La Fontaine, and Boileau. Not open to freshmen. Prerequisites: courses 2 and 3, or course 5, or their equivalent.

MWF 9:15 3 units, both semesters (SEARLES)

9. History of French Literature in the Nineteenth Century.—Lectures, with reading of the principal authors and reports by the members of the class. Open to students who have completed courses 7 or 8.

TTh 11:15 3 units, both semesters (SEARLES)

[With permission juniors and seniors in other departments may register for one unit of credit in course 9 and be excused from the supplementary reading.]

10. Lectures in French.—The written work required of French majors will also be in French. Courses *a* and *b* alternate with *c* and *d*. [Not given in 1913-14.] (GUÉRARD)

a. Voltaire and Rousseau. 2 units, 1st semester

b. Victor Hugo. 2 units, 2d semester

c. French Civilization.—Generalities, middle ages, Renaissance. 2 units, 1st semester

d. French Civilization.—Classical age, modern times. 2 units, 2d semester

11. Problems of Modern France.—A series of lectures on the general subject of the Carnot debate. [Not given in 1913-14.] (GUÉRARD)

12. The Romantic Movement.—Lectures in French. Reports on assigned topics. Prerequisite: two years of college French, including some practice in conversation.

TTh 11:15 2 units, 1st semester (PELLISSIER)

13. The French Novel during the Nineteenth Century.—Lectures in French and reports on assigned reading. Prerequisite: two years of college French including a course in conversation.

TTh 11:15 2 units, 2d semester (PELLISSIER)

13a. Realism in the Modern French Drama.—Lectures in English on the realistic movement in the French drama since 1850. Extensive reading outside of class and discussion of plays of representative modern authors. Prerequisite: French 7 or 9 or 12 or their equivalent.

TTh 9:15 2 units, 2d semester (DE VRIES)

14. Elementary Spanish.—Wagner, Spanish Grammar; Hills, Spanish Tales for Beginners; Echegaray, El Poder de la Impotencia. A continuous course open to all. 3 units, both semesters

MWF 8:15, 10:15, 11:15 (ESPINOSA, LAWRENCE)

15. Second-year Spanish Composition and Conversation.—Review of grammar, with prose composition and conversation. Open to students who have completed course 14, or its equivalent. Conducted entirely in Spanish.

MWF 9:15 3 units, both semesters (ESPINOSA)

16. Modern Spanish Reading.—Translation of selected texts in prose and verse. Open to students who have completed course 14 or who have received credit for entrance subject 5*a*.

TTh 9:15 2 units, both semesters (LAWRENCE)

17. Spanish Pronunciation.—Practice in Spanish pronunciation with the phonograph is open to students likely to profit by such practice, as far as the limitations of time and space will permit. No credit is given for this work. (ESPINOSA)

[Courses 15, 16, and 17 constitute the second year's work in Spanish, and should, if possible, be taken during the same year. Course 17 may not precede course 15.]

18. Advanced Spanish Composition.—Translation into Spanish of selected English prose. Open to students who have completed course 15 or its equivalent.

TTh 10:15 2 units, both semesters (Espinosa)

19. Classical Spanish.—A study of the principal authors of the classical period. Representative texts will be read of Cervantes, Lope de Vega, Calderón, Alarcón, Tirso de Molina, as well as selections from Ford's A Spanish Anthology. Open to students who have completed courses 15 and 16 or their equivalent. [Not given in 1913-14.]

2 units, both semesters (Allen)

20. Modern Spanish Drama.—A study of tne development of the modern Spanish drama from the beginning of the 19th century to the present time. Lectures, reports, and rapid reading of the more important works of Rivas, Gutierrez, Hartzenbusch, Bretón de los Herreros, Zottilla, Ayala, Tamayo y Baus, Echegaray, and Marquina, conducted entirely in Spanish. Primarily for seniors.

MWF 8:15 (1st sem.); TTh 11:15 (2d sem.)

3 units, 1st semester; 2 units, 2d semester (Espinosa)

21. Outline Course in the History of Spanish Literature.—Lectures with reading of important works and reports by the members of the class. Open to students who have completed course 19 or its equivalent. [Not given in 1913-14.] 2 units, both semesters (Allen)

22. Origins of Spanish Theatre.—A history of the drama from the earliest times to its full development with Lope de Vega. Lectures and collateral reading. [Not given in 1913-14.]

2 units, 1st semester (Allen)

23. Introduction to the Study of Old Spanish.—Reading and interpretation of old Spanish texts. Lectures on old Spanish Phonology and Morphology with linguistic exercises based on El Cantar de mio Cid, Ford, Old Spanish Readings (Boston, 1911), Biblioteca de Autores Españoles, vol. LVII, Menéndez Pidal, Manual Elemental de Gramática Histórica Española (Madrid, 1905). [Not given in 1913-14.]

3 units, 2d semester (Espinosa)

24. Old Spanish Ballads.—History of Spanish epic poetry from the cantares de gesta to the romances. Lectures, readings, and investigation on special topics. For graduates only.

MWF 8:15 3 units, 2d semester (Espinosa)

25. Elementary Italian.—Gaffino, A New Grammar of the Italian Language; Bowen, First Italian Readings. A continuous course open to all. MWF 8:15 3 units, both semesters (Johnston)

26. Advanced Italian.—Dante, La Divina Commedia. Translation course open to students who have completed course 25. [Not given in 1913-14.] 3 units, both semesters (JOHNSTON)

27. Dante and the Divine Comedy.—Lectures, with assigned readings. Open to juniors and seniors in all departments.

TTh 10:15 2 units, 2d semester (JOHNSTON)

[Course 26 alternates with course 27.]

28. Teachers' Course in French.—Lectures on methods of teaching French, study of the available text-books, review of French grammar. Open only to advanced students.

TTh 2:30 2 units, 1st semester (JOHNSTON)

29. Introduction to the Study of Old French.—Reading of selected passages from Bartsch-Wiese, Chrestomathie de l'Ancien Français (Leipzig, Vogel, 1908), with a study of Old French Phonology and Morphology. MTF 3:30-4:30 (1st sem.); T 1:30-3:30 (2d sem.)

3 units, 1st semester; 2 units, 2d semester (JOHNSTON)

30. French Historical Grammar.—Lectures on Old French Phonology and Morphology. [Not given in 1913-14.]

2 units, both semesters (JOHNSTON)

31. Chrétien de Troies.—Translation of the Works of Chrétien de Troies, with lectures on the other romances of the Arthurian cycle.

W 1:30-3:30 2 units, both semesters (JOHNSTON)

32. Corneille.—Lectures, with assigned reading. [Not given in 1913-14.] 2 units, 2d semester (JOHNSTON)

33. Floire et Blancheflor.—A translation of the two Old French poems on *Floire et Blancheflor,* with lectures on the origin and growth of the legend. [Not given in 1913-14.]

2 units, both semesters (JOHNSTON)

34. Journal Club.—The instructors in the department and the advanced students meet regularly on alternate Fridays for the discussion of the periodicals and new books. F 2-3.

ENGLISH LITERATURE AND RHETORIC

William Herbert Carruth, *Alphonso Gerald Newcomer, Professors.
Lee Emerson Bassett, Associate Professor.
Samuel Swayze Seward, Jr., Howard Judson Hall, Henry David Gray, †William Dinsmore Briggs, Everett Wallace Smith, Assistant Professors.
Theresa Peet Russell, Edith Ronald Mirrielees, †Van Wyck Brooks, Frank Ernest Hill, Robert Justin Miller, Instructors.
Elizabeth Lee Buckingham, Carl Sawyer Downes, Russell Osborne Stidston, Acting Instructors.
Evelyn Wight Allan, (Dean of Women).
[2]James Maxwell Anderson, [2]Margery Bailey, Walker Stillwell Clute, Dorothy Parks Gunnell, Arnie Lilian McPherron, Undergraduate Assistants.

Requirements for the Degree of Bachelor of Arts

a. The courses in Chaucer, Shakespeare, Milton (or Wordsworth), History of English Literature (course 32 in the third year, and English Philology 3 in the fourth year), besides such preliminary courses in vocal training, composition, or literature as may be requisite in each individual case.

b. English History. Students entering credited with Entrance English History are considered as having fulfilled this requirement.

c. A sound knowledge of at least one foreign language and its literature—ordinarily interpreted as requiring a minimum of 16 units in the chosen language, not including German 1 or French 1.

In general, students are encouraged to include among their elected studies Latin or Greek (not less than two years; or, in case Latin or Greek be selected to meet requirement *c* above, one modern foreign language), Anglo-Saxon, and a course in science, with laboratory work. Students preparing for journalism may substitute for the more advanced courses in literature, courses in Advanced Composition, History, Economics, and Social Science.

For each student in course *A*, except in the case of those who meet the requirement within a short time, a fee of $10 is charged.

The Teacher's Recommendation.—The High School Teacher's Certificate is granted by the State to students who have fulfilled the State requirements as set forth on pages 86-87 of this *Register*. Rec-

*Deceased, September 16, 1913.
†Absent on leave, 1913-14.

ommendation by the Department is granted by vote to students whose work in certain prescribed subjects has been of "high character." The undergraduate courses usually prescribed are: in the Department of English Literature, Vocal Expression, Composition, Shakespeare, Milton, Teacher's Course, and one course in the history of English literature; in the Department of English Philology, Anglo-Saxon and Chaucer. The graduate courses, to be chosen on consultation, should include not less than two units of work in the Department of English Literature and two units in the Department of English Philology for each semester's work taken.

Advanced Degrees

The preliminary requirements for entrance upon a course for an advanced degree in English are: (a) the course for the degree of A. B. or its equivalent; (b) an elementary knowledge of Anglo-Saxon; (c) a sound knowledge of two foreign languages (preferably one ancient and one modern language).

A candidate for the Master's degree in English Literature is expected to take within the year at least twenty-six units in courses (of whatever department) recognized as of advanced or graduate character. Of these units at least six must be graduate courses in English Literature and six must be graduate courses in English Philology. The Master's thesis may be credited (according to the judgment of the instructor under whose guidance it is being written) to the amount of one to five units a semester; but not more than four of such units in the year may apply toward the twelve units required in the two departments.

Preliminary and General Courses

[In general, courses 1-10 are open to first-year students; courses 11-20 are open to second-year students.]

A. Elementary Composition.—A one-semester course required of all first-year undergraduates except those who show themselves entitled to exemption. 1 unit, either semester

TTh 8:15, 9:15, 10:15 (Mirrielees, Stidston)

1. Vocal Expression.—A study of the principles of expressive reading, and the vocal interpretation of masterpieces in prose and poetry, with supplementary work in voice development. As a requirement of the course each student is expected to memorize and vocally interpret 350 lines of Shakespeare during the semester. The course in Vocal Expression is open to a limited number of students in the order of their application. Application should be made before the first meeting

of the class in the semester, and the instructor reserves the right to refuse to enroll students who do not appear at the first session of the class.

MWF 8:15, 9:15, 10:15 3 units, either semester (BUCKINGHAM)

2. English Composition.—Practical work in narration and description, first semester; in exposition, second semester. In two of the sections exposition is given in the first semester, and narration and description in the second. English majors are expected to enroll in section I (see schedule).

TTh 8:15, 9:15, 10:15, 11:15 2 units, both semesters
(HALL, GRAY, SMITH, RUSSELL, DOWNES, HILL)

5. English Classics.—A study of representative works of great English writers from Malory to Browning, with assigned reading and writing. Open only to first-year students who are not English majors.

MWF 10:15, 11:15 3 units, either or both semesters
(MIRRIELEES, DOWNES)

6. Outline History of English Literature.—A survey, critical and historical, of English literature in its larger aspects, with readings. Designed primarily for English majors in the first year.

MWF 11:15 3 units, 1st semester (SEWARD)

7. Types of Poetry.—A study of the nature, methods, and varieties of poetry, the elements of poetic form, and the elements of poetic criticism. Designed primarily for students who intend to pursue advanced work in literature.

MWF 11:15 3 units, 2d semester (SEWARD)

9. Extemporaneous Speaking.—Practice in extemporaneous speaking on subjects of current interest, with some attention to the preparation of speech outlines. Four sections.

MW 9:15; T 1:30-3:30; Th 1:30-3:30; TTh 3:30-4:30
2 units, 1st semester (BASSETT, MILLER)

10. Tennyson.—A study of selected portions of Tennyson's poems, illustrating the growth of his literary art. A general course, designed for first-year students, and open to third-year and fourth-year students only by permission. [Not given in 1913-14.]

3 units, 2d semester (HALL)

11. Vocal Interpretation.—*a*. An advanced course in the vocal interpretation of literature. Designed particularly for those who intend to teach English literature. Prerequisite: course 1. Two sections.

TTh 9:15; M 1:30-3:30 2 units, 1st semester (BASSETT)

b. Dramatic Literature (second semester). Scenes assigned from Shakespeare and from modern plays of literary merit. Members of the class will vocally interpret characters and scenes assigned for individual study. Prerequisite: course 11*a*.

2 units, 2d semester (BASSETT)

12. Advanced Composition.—Including both rapid writing and the preparation of long themes. Prerequisite: course 2.

MWF 9:15 3 units, both semesters (RUSSELL)

13. News Writing.—Practice in abstracting and condensing, writing within time and space limits, copy-reading and headline writing; together with instruction in methods of gathering news and in the duties of the various members of a newspaper staff. Prerequisite: course 2.

TTh 11:15 2 units, both semesters (SMITH)

14. Browning.—Not open to first-year students.

MWF 11:15 3 units, 1st semester (RUSSELL)

15. Shakespeare.—The first semester's work consists of a rapid reading of a considerable number of the plays in chronological sequence. The second semester is devoted to a careful study of three or four plays. Open in the first semester to all second-year students: in the second semester to English majors and such others as show special interest and aptitude.

MWF 10:15 3 units, either or both semesters (GRAY, BASSETT)

16. English Bible.—Representative portions of the Bible studied as literature, with some consideration of the history and the prose style of the English versions. Not open to first-year students.

MWF 11:15 3 units, 2d semester (RUSSELL)

19. Early Nineteenth Century Literature: 1798-1832.—A survey of English literature (exclusive of the novel) from the publication of the Lyrical Ballads to the death of Scott.

TTh 9:15 2 units, either or both semesters (SEWARD)

20. Victorian Literature.—*a*. A survey of Victorian prose, with special emphasis upon Carlyle, Ruskin, and Arnold (first semester). *b*. A study of selected Victorian poets (second semester). [Not given in 1913-14.] 2 units, either or both semesters (SEWARD)

ADVANCED AND SPECIAL COURSES

[Unless otherwise specified, the following courses are open to third-year and fourth-year students of all departments.]

21. Public Speaking.—Practice in the preparation and delivery of speeches adapted to various audiences and occasions, with attention to the style of spoken discourse based on a study of masterpieces of oratory. Prerequisite, course 9. Four sections. 2 units, 2d semester.

MW 9:15; TWTh 1:30-3:30 (BASSETT, MILLER)

22. Oral Debate.—Practice in the preparation and delivery of oral arguments, chiefly on current public questions. Open to a limited number of students who have taken or are taking course 24, to be admitted in the order of application.

W 2:30-4:30 2 units, both semesters (BASSETT, HILL)

23. Technical Writing.—Open to advanced students of all departments wishing direction in preparing papers and theses.

Units to be arranged, 1st semester (HALL)

24. Argumentation.—The theory of argumentation, with practice in the preparation of briefs and forensics. Open to all students in the third and fourth years.

TTh 11:15 2 units, both semesters (SEWARD, MILLER)

25. Short Story Writing.—Practice in the writing of short stories, and a study of the principles governing their composition. Open by permission to students in their third and fourth years.

T 1:30 2 or 3 units, both semesters (MIRRIELEES)

26. Play Construction.—The principles of dramatic writing developed in connection with the student's own work, together with the critical analysis of certain successful plays of the present. Open by permission to advanced students.

W 2:30 2 units, both semesters (GRAY)

27. Current Newspapers.—The study and comparison of current daily newspapers with a view to observing their policies and ideals as shown in the news columns. Ordinarily English 13 should precede this course. MWF 11:15. 3 units, both semesters (SMITH)

28. American Poetry, Exclusive of the Drama.—A study of the greater American poets with especial reference to their relation to English and Continental literature. Open to third-year and fourth-year students and to graduates.

MWF 10:15 3 units, 1st semester (CARRUTH)

29. National Epics.—Reading in translation of the Mahabharata,

the Iliad, the Shah-Nameh, the Niebelungenlied, the Song of Roland, the Beowulf, and the Kalewala. Open to third-year and fourth-year students and graduates.

MWF 10:15 3 units, 2d semester (CARRUTH)

30. Prosody and Verse Writing.—Study of lyric poems, with practical exercises in the same. Open to third-year and fourth-year (and by permission to second-year) students who have had four units in English composition.

TTh 10:15 2 units, 2d semester (CARRUTH)

31. Elizabethan Drama.—A study of representative plays, omitting Shakespeare. Open to students of all departments in the third and fourth years.

MWF 9:15 3 units, 2d semester (GRAY, DOWNES)

32. The Restoration and the Eighteenth Century.—From 1660 to 1740, the age of Dryden and the age of Pope, first semester. From 1740 to 1798, the age of Johnson and the early Romantic revival, second semester. MWF 11:15 3 units, both semesters (HALL)

33. Milton.—Open to third-year and fourth-year students of all departments. [Not given in 1913-14.]

2 units, 1st semester (BRIGGS)

34. Wordsworth.—Open to third-year and fourth-year students of all departments. TTh 9:15 2 units, 1st semester (HALL)

35. Introduction to Comparative Literature.—Open to the third-year and fourth-year students who have had not less than ten units in English literature.

Th 10:15 1 unit, 1st semester (CARRUTH)

36. English Fiction.—A course in the history of English fiction, with emphasis on the rise and development of the novel in the eighteenth and nineteenth centuries. Open to third-year and fourth-year students. [Not given in 1913-14.] 3 units, 1st semester (GRAY)

38. The Modern Drama.—A study of certain significant dramas of Ibsen, and of contemporary dramatists. Open to students of all departments in the third and fourth years.

MWF 8:15 3 units, 1st semester (GRAY)

39. The Modern Novel.—The reading of one novel a week, supplemented by lectures covering additional works of the authors studied and some account of other important novelists of the time. Open to students in the third and fourth years.

TTh 9:15 3 units, 2d semester (GRAY)

40. The Romantic Revival.—A study of the development of English romanticism during the eighteenth century. Open to seniors and graduates. T 3:30 2 units, 2d semester (HALL)

42. Teachers' Course in English.—A study of the methods of teaching Composition (first semester) and Literature (second semester) in secondary schools. Open to students in the senior year.
T 1:30-3:30 2 units, both semesters (SEWARD)

ALLIED COURSES IN OTHER DEPARTMENTS

HISTORY OF EARLY ENGLISH LITERATURE.—[English Philology 3.] 3 units, 1st semester (FLÜGEL)

CHAUCER (elementary course).—[English Philology 2.] 2 units, 1st semester (FLÜGEL)

CHAUCER (advanced course).—[English Philology 8.] 2 units, 2d semester (FLÜGEL)

BALLADS AND LYRICS OF THE SIXTEENTH CENTURY.—[English Philology 9.] 2 units, 2d semester (FLÜGEL)

THE GREEK EPIC.—[Greek 20.] 2 units, 1st semester (MURRAY)

GREEK TRAGEDY.—[Greek 21.] 2 units, 2d semester (MURRAY)

LATIN LITERATURE.—[Latin 33.] 2 units, 1st semester (FOSTER)

DANTE AND THE DIVINE COMEDY.—[Romanic Languages 27.] 2 units, 2d semester (JOHNSTON)

GRADUATE COURSES

43. Tennyson.—The Idylls of the King compared with their sources. Open to graduates and to fourth-year students of the English or of the Romanic Languages Department.
WF 1:30 2 units, 1st semester (CARRUTH)

44. The Hildebrand Theme in General Literature.—A study of the source and migration of epic themes. Open to graduates and to fourth-year students in any language department.
WF 1:30 2 units, 2d semester (CARRUTH)

45. Shakespeare.—A critical study of one play. In 1913-14, Hamlet; in 1914-15, Antony and Cleopatra.
M 3 2 units, 2d semester (GRAY)

47. The English Lyric.—A study of the several forms of English lyrical poetry, each in its historical development. [Not given in 1913-14.] 2 units, 1st semester (GRAY)

50. Journal Club: Literary Section.—Reports on current literature by the members of the course.
M 1:30 1 unit, both semesters (CARRUTH)

ENGLISH PHILOLOGY

EWALD FLÜGEL, Professor.

SAMUEL SWAYZE SEWARD, JR., Assistant Professor (Department of English Literature).

1. Anglo-Saxon.—Anglo-Saxon Grammar and translation of select passages in prose.

MW 8:15 2 units, both semesters (SEWARD)

2. Chaucer.—This course is an elementary one, and includes an outline of Middle English Grammar for the beginner. Open to Juniors who have a reading knowledge of (1) either French or Latin and (2) German. The course in Anglo-Saxon will be accepted as an equivalent for German. For special outside work an extra credit will be given. [Not given in 1913-14.] 2 or 3 units, 1st semester (FLÜGEL)

3. History of Early English Literature (to 1557).

Th 1:30-3:30 3 units, 1st semester (FLÜGEL)

ADVANCED AND GRADUATE COURSES

In order to prepare the future high school teachers satisfactorily, candidates for the Teachers' Recommendation in English are expected to take, besides the work in Literature, a whole year's advanced work in English Philology. If properly prepared they will be admitted to the Seminary and other advanced courses during their senior year. Candidates for the Master's Degree are expected to do at least a year's post-graduate work in English Philology, for which a reading knowledge of German, French (old and modern), and Latin is a prerequisite.

4. Middle English Grammar.—(*a*) Phonology; (*b*) Morphology.

M 1:30-3:30 2 units, 1st semester (FLÜGEL)

5. Beowulf. Th 1:30-3:30 2 units, 2d semester (FLÜGEL)

6. English Paleography.—[Not given in 1913-14.]

2 units, both semesters (FLÜGEL)

7. Middle English Exercises.

M 1:30-3:30 2 units, 2d semester (FLÜGEL)

8. Chaucer (advanced course).—Interpretation of the Prologue the "Links," and lectures on the history of Chaucer criticism. Prerequisite: course 2 or its equivalent. Open to seniors of other departments. For special outside work an extra credit will be given.

Th 3:30 2 or 3 units, 2d semester (FLÜGEL)

9. Ballads and Lyrics of the Sixteenth Century.—[As "Teachers' Course," 3 units.] Th 3:30 2 units, 1st semester (FLÜGEL)

10. History of English Philology.—Lectures.
M 8:15 p.m. 2 units, both semesters (FLÜGEL)

11. Seminary.—Papers and Lectures. [Not given in 1913-14.]
2 units, both semesters (FLÜGEL)

12. Journal Club: Philological Section.—Reports on current journals by instructors and graduate students. [Not given in 1913-14]
1 unit, both semesters (FLÜGEL)

BIBLICAL HISTORY AND LITERATURE

DAVID CHARLES GARDNER, Lecturer.
ERNEST WHITNEY MARTIN (Department of Greek), THERESA PEET RUSSELL (Department of English Literature).

1. Life and Teaching of Christ.—A history of the life and times of Jesus, with a study of the four Gospels, an analysis of the Ethics of Jesus, and the application of his teaching to the life of to-day. Lectures, discussions, and papers.
Th 1:30 1 unit, both semesters (GARDNER)

Greek Testament.—The first semester will be devoted to the study of Mark and Luke; the second semester to the study of John. [Greek 12.] TTh 11:15 2 units, both semesters (MARTIN)

English Bible.—Representative portions of the Bible studied as literature, with some consideration of the history and the prose style of the English versions. Not open to first-year students. [English 16.] 3 units, 2d semester (RUSSELL)

PHILOSOPHY

†HENRY WALDGRAVE STUART, Professor.
‡WARNER FITE, Acting Professor.
GEORGE HOLLAND SABINE, Associate Professor.

[Courses 1 and 6 only are open to first-year students.]

1. Elementary Logic.—The principles of Deductive and Inductive Logic with special attention to the important types of fallacy.
MWF 9:15 3 units, 1st semester (SABINE)

2. Elementary Ethics.—A study of the problem of morality in terms of leading tendencies and conflicts in present-day society, based upon an analysis of the fundamental historic ethical theories.
MWF 10:15 3 units, 1st semester (FITE)

†Absent on leave, 1913-14.
‡First semester, 1913-14.

3. History of Philosophy.—A general course covering the development of philosophical ideas and systems from the early Greek period to the end of the eighteenth century in Germany, and closing with a brief outline of the main philosophical problems of the nineteenth century. Attention will be given throughout to the connections of philosophy with social and political conditions and with science, literature, and religion. MWF 8:15 3 units, both semesters (SABINE)

4. Philosophy of the Nineteenth Century.—The development of philosophical problems and theories since Kant. Prerequisite: course 3 or an equivalent.

By arrangement 3 units, 1st semester (SABINE)

5. Philosophy in the Life of the Nineteenth Century.—The influence of philosophical ideas as manifested in important social and literary developments of the nineteenth century. The materials for study will be drawn chiefly from English literature. So far as possible the leading ideas thus presented will be correlated with their more explicitly philosophical equivalents. No prerequisite.

MWF 9:15 3 units, 2d semester (SABINE)

6. Advanced Logic.—Methods of investigation in use in the natural and social sciences, and the cardinal assumptions and principles on which these methods are based. Prerequisite: course 1 or an equivalent. MWF 9:15 3 units, 2d semester (SABINE)

7a. Contemporary Tendencies in Philosophy.—An elementary comparative study of Idealism (as presented by Royce and by Bosanquet), The New Realism, Pragmatism, and the leading ideas of Henri Bergson and of Rudolf Eucken. Prerequisite: courses 2 or 3 or 5, or an approved equivalent.

MWF 9:15 3 units, 1st semester (FITE)

8. History and Applications of the Theory of Evolution.—The history, in outline, of the theory of evolution from its appearance among the Greeks to its formulation by Darwin and other modern representatives. Applications of the evolutionary method outside the province of biology and some philosophical implications of the evolutionary conception of the world. No prerequisite.

TTh 9:15 2 units, 2d semester (SABINE)

9. Outlines of General Philosophy.—[Not given in 1913-14.]

2 or 3 units, both semesters (STUART)

10a. The Problem of Consciousness.—A critical survey of the philosophical groundwork of psychology.

By arrangement 2 units, 1st semester (FITE)

PSYCHOLOGY

FRANK ANGELL, LILLIEN JANE MARTIN, Professors.
JOHN EDGAR COOVER, Research Fellow in Psychic Phenomena.
GERTRUDE MAY TRACE, Graduate Assistant.

1. General Psychology.—Lectures and exercises. Open to first-year students by permission. Titchener's Text-book of Psychology is used as a book of reference.

MTWTh 11:15 4 units, 1st semester (ANGELL)

1a. Mental Hygiene.—Especially for freshmen.

TTh 8:15 2 units, 1st semester (MARTIN)

2. Experimental Psychology.—Lectures, one hour; laboratory, two hours. Students are recommended to take this course in connection with courses 1, 1*a*, and 4.

Lab. TTh 1:30 3 units, each semester (MARTIN, ANGELL)

3. Abnormal Psychology.—Not open to first-year students except by permission. TTh 8:15 2 or 3 units, 2d semester (MARTIN)

4. Psychology of the Fine Arts.—Open to freshmen by permission.

MWF 8:15 2 or 3 units, 1st semester (MARTIN)

5. Advanced Laboratory Work.

MWF 1:30 3 units, both semesters (ANGELL, MARTIN)

6. Space Perception.—Usually presupposes or accompanies course 5.

TTh 11:15 2 units, 2d semester (ANGELL)

7a. Readings in French Psychology.

T by arrangement 2 units, 2d semester (MARTIN)

7b. Current Psychological Literature.

By arrangement 1 unit, both semesters (ANGELL)

8. Psychology of Thinking and Psychical Research.—Open to those who have taken course 1 or course 3.

By arrangement 2 units, 2d semester (MARTIN)

9. History of Psychical Research.

TTh by arrangement 2 units, 2d semester (COOVER)

10. Psychical Research Laboratory.

TTh 1:30-4:30 by arrangement 2 units, 2d semester (COOVER)

11. Research Work.

By arrangement (ANGELL, MARTIN)

EDUCATION

ELLWOOD PATTERSON CUBBERLEY, Professor.
†PERCY ERWIN DAVIDSON, RUFUS CLARENCE BENTLEY, LEWIS MADISON TERMAN, Associate Professors.
JESSE BRUNDAGE SEARS, Assistant Professor.
MORRIS ELMER DAILEY, GEORGE ARCHIBALD CLARK, ERNEST BRYANT HOAG, Lecturers.
WILFORD EBENEZER TALBERT, Graduate Assistant.
EDITH NAOMI BENTLEY, Assistant, Education Library.

The Department of Education offers three main lines of work:

1. Courses of a general nature on the history, function, and administration of public education, intended in part as information courses for the general university student and without reference to the work of teaching. To such students the courses of Groups I and II are recommended.

2. Courses intended to assist other departments in preparing their students for work in secondary schools. All such students should confer with members of the Department of Education as to courses, but in general courses 1, 2, and 13 are recommended if the candidate has not had experience in teaching. Course 13 is required under the California law for the high school teacher's recommendation, as are courses 17 and 18, if the candidate has not had previous experience in teaching.

3. Courses primarily for major students, or those making Education a minor, and intended to give special preparation to (*a*) those who desire to become teachers of Education in normal schools or colleges, (*b*) those who wish to prepare for supervisory or administrative positions in the public schools, elementary or secondary, and (*c*) those who wish to prepare for special educational work in the elementary or secondary field.

The courses in Education are open to all students as electives or as minor subjects, but only those who desire to prepare for one of the lines of work mentioned above under (3), and whose preparation and experience are satisfactory to the Department, will be accepted as major students. In special cases those without teaching experience may be accepted as major students, but all such must register for courses 17 and 18 as soon thereafter as arrangements can be made.

†Absent on leave, first semester, 1913-14.

Major Requirements

Major students begin their work in Education with the sophomore year, taking courses 1 and 2. Psychology 1 and *2a* should also be taken this same year. For graduation in Education students will be expected to have completed 30 units in the Department, including practice in teaching. This should ordinarily include courses 1 and 2, 3 or 4, 7 or 8, 9 or 10, 11 or 12, 6 or 13, 17, and 18, and one advanced course under Group IV, or a substantial equivalent. Zoology 1, Botany 1, or Physiology 1, and the course in Bionomics, should also be taken early in the student's course. Other collateral work will be advised to meet individual needs. Students coming with advanced or graduate standing from other universities, where the curriculum does not parallel that offered here, may have substantially equivalent preparation or experience accepted in lieu of the courses required here.

The requirements for the baccalaureate degree cover only introductions to the different fields of Education, and it is assumed that those proposing to offer themselves for responsible positions in educational work, such as those indicated under 3, above, will proceed at once to the Master's degree. For this at least 20 units in advance of the baccalaureate requirements, together with the presentation of a satisfactory thesis, will be required. At least three-fourths of the 20 units must be work listed under Groups III and IV, though where course 9 or 10, or an equivalent, has not been counted as a part of the undergraduate units, such course may then be counted as belonging to Group IV. The completion of the first year of graduate study should mean a somewhat general acquaintance with the different divisions of Education, together with the beginnings of specialization in some one of these.

During the second year of graduate study the student will be expected to attain a mastery of the literature and practice in two of the following divisions of the subject: (1) History of Education, (2) Theory of Education, (3) Administration of Education, (4) Educational Psychology, (5) Educational Hygiene. Students intending to proceed to the doctorate, either at once or later, should select one of these divisions as a major and one as a minor; complete in large part the required work in a second minor, outside of the Department; pass off the modern language requirements; and get well started on the dissertation.

Library and Practical Facilities

The general university library contains the important recent books, and files of the more important educational magazines, both American and foreign. The collection of early American educational magazines and reports is also good. The special library of the Department, consisting of about 7000 volumes, contains one of the most complete collections of American state and city school reports to be found in the United States, the library ranking third in this respect. It is also rich in old college and normal school catalogues and text-books, of much historical value. The collection of old and present-day school text-books is also large and valuable.

In practical facilities the department has good working connections with the State Normal School at San Jose, and with the public schools of the immediate vicinity. For more important studies by advanced students the large school systems in the vicinity of the University can be used, and a class of retarded pupils is available (see course 26*b*) for careful systematic instruction and study.

I. Elementary and Introductory Courses

[Open to any one with teaching experience, and to all others except first-year students.]

1. **Public Education in America.**—A study of the province and some of the more important problems of public education in the United States. An introductory course. Lectures, following a syllabus, with assigned readings.

TTh 10:15 2 units, 1st semester (Cubberley)

2. **Educational Theory.**—An introductory course dealing with topics fundamental to education, such as the meaning of infancy, tradition, heredity and environment, types of learning, the order of growth, character, etc. Lectures, following a syllabus, with assigned reading.

TTh 10:15 2 units, 2d semester (Davidson)

3. **History of Education in Europe.**—A study of the development of educational ideals and systems from the time of the Greeks and Hebrews to the present, with particular reference to the forces which have operated in the evolution of the various historic ideals and schools. The first semester (3*a*) covers the period up to the Reformation, and the second semester (3*b*) the period from the Reformation to the present. Either semester may be taken separately. Lectures, following a syllabus, with assigned readings.

MWF 9:15 3 units, both semesters (Sears)

4. History of Education in America.—A more advanced course, dealing with selected problems in the history and present condition of education in the United States. [Not given in 1913-14.]

2 units, both semesters (CUBBERLEY)

II. MORE ADVANCED COURSES, BUT OF A SOMEWHAT GENERAL NATURE

[Open to teachers, and to third- and fourth-year students. In general, courses 1 and 2 should precede these courses. Course 3 should precede or accompany course 19.]

6. Elementary Education.—A course dealing with the organization and instruction in elementary schools, but with particular reference to the content and the use of the course of study. The kindergarten will be considered incidentally. Intended primarily for prospective workers in the elementary school field.

TTh 9:15 2 units, both semesters (SEARS)

7. Social and Moral Education.—A study of the important facts and principles underlying social and moral education, as a basis for a criticism of current educational practice in this country and elsewhere. The course should be preceded by elementary work in psychology or ethics. [Not given in 1913-14.]

2 units, both semesters (DAVIDSON)

8. Logic of Education.—A study of the significance for education of the theory of knowledge and the psychology of thinking. Herbartian "General Method" will be reviewed. Open to students who have taken elementary work in psychology or logic.

MWF 11:15 3 units, 2d semester (DAVIDSON)

9. City School Administration.—A study of the educational, financial, and administrative principles underlying the proper administration of school systems in cities, with a view to the establishment of principles of action. An accompanying thesis required each semester.

W 3:30-5:30 3 units, both semesters (CUBBERLEY)

10. State School Administration.—A study of the educational principles underlying the proper administration of school systems in states and counties, and involving a comparative study of the school laws and school systems of the various American states. The course includes a study of such topics as federal and state policy, forms of control, revenue and its apportionment, the state and the teacher, the state and the child, private and sectarian education, and state oversight and control.

TTh 11:15 2 units, both semesters (CUBBERLEY)

11. **Physical Aspect of the Child.**—This course will include a consideration of the following topics: growth in height and weight; growth of parts and organs; common abnormalities of eye, ear, nose, throat, spine, heart, lungs, and teeth; nervous disorders, speech defects, malnutrition, mortality, and mental deficiency; physiological aspects of sleep, work, play, and rest.

MWF 10:15 3 units, 1st semester (TERMAN)

12. **Educational Hygiene.**—This course will deal with such topics as the history, methods, and results of medical inspection of schools; educational adaptations for defectives; the hygiene of gradation and promotion; the number and length of school sessions; the hygiene of the school subjects; the hygienic supervision of athletics; the playground movement; hygienic aspects of co-education; the status of hygiene teaching in the schools; heating, lighting, ventilation, and the care of school buildings.

MWF 10:15 3 units, 2d semester (TERMAN)

III. Courses Intended Primarily for Those Preparing to Teach in Secondary Schools

[Open to seniors and graduate students. Courses 1 and 2 should ordinarily precede these courses. Course 17 should precede course 18 by one semester.]

13. **Secondary Education.**—A course dealing with the organization, scope, and method of public and private secondary schools in America, and including a consideration of the preparatory, cultural, commercial, technical, and industrial aspects of secondary education. Lectures, assigned readings, and reports. Intended primarily for and required of those preparing for the teacher's certificate. Open to seniors and graduates only.

MWF 8:15 3 units, either semester (BENTLEY)

14. **Adolescence.**—A survey of some of the literature of the subject, with special reference to those phases which are of most significance to those engaged in secondary education.

W 1:30-3:30 2 units, both semesters (TERMAN)

15. **The Administration of a School.**—A practical course, dealing with the work of teachers and principals in a high school or city school. This course will involve some visitation of high schools in the vicinity of the University.

TTh 8:15 2 units, 1st semester (BENTLEY)

16. **Types of Secondary Schools.**—A more advanced course than 13, and consisting of an examination of the work proposed for the

various new types of high schools—polytechnic, commercial, agricultural, and industrial—and a study of such schools as found in other lands, with a view to ascertaining the possibilities of such instruction.

TTh 8:15 2 units, 2d semester (BENTLEY)

17. Method and Management of Instruction.—A practical course in class-room management and the theory of instruction. Intended as a preparatory course for those expecting to do practice teaching, and should be taken the semester preceding. Not required if course 8 has been taken. M 1:30 1 unit, either semester (SEARS)

18. Practice in Teaching.—Actual practice in the handling of classes and the giving of instruction, with accompanying conferences, as required by the rules of the State Board of Education for a California High School Teacher's Certificate. This may be arranged for at the University, at the San Jose State Normal School, or at any other California State Normal School. Hours for teaching must be arranged in advance: (*a*) if at the University, with Professor SEARS; (*b*) if at the San Jose State Normal School, with President DAILEY. Conference with all practice teachers.

M 4:30-5:30 4 units, either semester (SEARS, DAILEY)

IV. ADVANCED AND SPECIAL COURSES

[Intended primarily for teachers of some experience, and for students making Education a major or a minor. Open to such, of junior standing or above.]

19. Sources for the History of Education.—A more extensive and intensive study of the sources for the History of Education than is undertaken in connection with courses 3 or 4. Systematic readings, intended primarily to prepare for the teaching of the subject.

By arrangement 2 units, both semesters (CUBBERLEY)

20. Criticism and Supervision of Instruction.—A few advanced students, who have had sufficient teaching experience, will be allowed to undertake the personal investigation, in the schools of the vicinity, of problems in instruction or supervision. Collateral reading and detailed written reports will be required. Enrollment only after conference with the instructor concerned.

1 unit, either semester (BENTLEY, DAVIDSON, SEARS)

21. School Administration Practice.—A laboratory course in school administration practice, dealing with the office and supervisory work of principals of elementary schools and superintendents of schools. Visits will be made to school systems in the vicinity of the University. [Not given in 1913-14.] 2 units, 2d semester (CUBBERLEY)

22. Statistical Method.—The theory of statistical work and the application of statistical method to the study of typical problems in the different fields of education.

TTh 10:15 2 units, 2d semester (CUBBERLEY)

23. Clinical Child Psychology.—A study of the methods employed in the diagnosis of normal and abnormal children. The literature of "mental tests" will be utilized as an approach to the chief laws of mental development. Prerequisite, General Psychology. [Not given in 1913-14.] 2 units, both semesters (TERMAN)

24. Educational Psychology.—The study of individual differences; the distribution of traits according to sex, age, maturity, environmental and hereditary influences; types of intellect and character, etc. Prerequisite, General Psychology. [Not given in 1913-14.]

2 units, both semesters (TERMAN)

25. Experimental Pedagogy: General.—An introduction to the study of experimental investigations bearing on the pedagogy of the school subjects (reading, writing, spelling, arithmetic, etc.); economic learning and habit formation; the doctrine of formal discipline, etc. This course should ordinarily be preceded by Education 6 (Elementary Education), Education 22 (Statistical Method), and General and Experimental Psychology.

M 2:30-4:30 2 units, 1st semester (TERMAN)

26. Experimental Pedagogy: Applied.—

a. Pedagogical Tests and Standards.—A study of the experimental investigations relating to methods of testing the results of school work. Prerequisite, Education 25.

M 2:30-4:30 2 units, 2d semester (TERMAN)

b. Experimental Pedagogy: Practice.—The course provides an opportunity to properly qualified students to undertake systematic study of normal and retarded children, with a view to the proper appraisement of methods of teaching employed in and recommended for elementary schools, and to the application of accepted principles of educational psychology. Open to students who have taken Education 25 and its prerequisites.

Th 2:30-4:30 2 or 3 units, 2d semester (DAVIDSON)

28. Foreign School Systems.—A comparative study of the more important foreign state school systems, their policy of organization, ideals of work, methods of instruction, training of teachers, courses of study, statistics, and recent reforms. Different national systems will be studied each year.

TTh 10:15 2 units, both semesters (BENTLEY)

30. The Training of Teachers.—This course deals with the organization of normal schools and the professional preparation of teachers, and is primarily intended for those entering on the work of training and supervising teachers. [Not given in 1913-14.]

1 unit, 2d semester (CUBBERLEY)

31. Thesis Work.—In certain courses, students may be given an additional hour of credit on presentation of a satisfactory thesis on an assigned topic embodying the results of independent work. The consent of the instructor is necessary before registering.

1 unit, either semester

32. Special Courses.—Special work in independent investigations may be provided for students prepared to do advanced work, the nature of the investigation being determined by the student's preparation and needs. Candidates for advanced degrees will ordinarily register their thesis under this course, the number of units of credit being subject to individual arrangement. The members of the instructing staff stand ready to supervise independent investigations in the following fields:

(*a*) History and organization of American Education, and problems in state and city school administration. (CUBBERLEY)

(*b*) Problems in educational theory and elementary instruction. (DAVIDSON, SEARS)

(*c*) Problems in the organization and administration of secondary education. (BENTLEY)

(*d*) Problems in mental development, and in child and school hygiene. (TERMAN)

34. Educational Problems.—A discussion club.

Alt. W 7:30-9:30 1 unit, 2d semester (CUBBERLEY)

V. Courses for Teachers of Special Subjects

The following special courses of instruction, and groupings of courses, designed to prepare teachers for special work in the public schools, are open as electives to majors in other departments, or may be taken in conjunction with a major in Education.

1. Commercial Teachers' Training Course

33. Commercial Teachers' Training Course.—A demonstration course in the teaching of shorthand and typewriting, supplemented by discussions and illustrations in the treatment of English, geography, arithmetic, law, and other collateral subjects, the object being to demonstrate a working plan for handling commercial subjects in the high school. Open to junior and senior students intending to take up teach-

ing. One hour of instruction and two hours of practice, three times weekly. [Not given first semester of 1913-14.]

2 units, both semesters (CLARK)

2. Manual Arts Teachers' Course

This curriculum is designed to prepare teachers of the manual arts for work in polytechnic high schools. The full curriculum requires a minimum of 28 units of work, or a minimum of 22 units if preparation in Foundry Work and Pattern Making is omitted. The courses marked with the asterisk are essentials.

*1. Woodworking.—[Mech. Eng. 5.] 2 or 3 units, either semester.

*2. Forge Work.—[Mech. Eng. 1*a* and 1*b*.] 3 units, either semester.

*3. Machine Shop Work.—[Mech. Eng. 7*a* and 7*b*.] 3 units, either semester. (Presupposes Forge Work.)

4. Foundry Work.—[Mech. Eng. 3*a* and 3*b*.] 3 units, either semester.

5. Pattern Shop Work.—[Mech. Eng. 6*a* and 6*b*.] 3 units, either semester. (Presupposes Woodworking and Foundry Work.)

*6. Freehand Drawing.—[Graphic Art.] 3 units, each semester.

*7. Linear Drawing and Lettering.—[Engineering 1*b*.] 1 unit, either semester.

8. Descriptive Geometry.—[Engineering 1*b*.] 1 unit, 1st semester. (Presupposes Algebra, Geometry, and Linear Drawing and Lettering.) 4 units, 2d semester.

*9. Elementary Machine Drawing.—[Mechanical Eng. 11.] 2 or 3 units, either semester. (Presupposes Freehand Drawing, Linear Drawing and Lettering, and Descriptive Geometry.)

This course will take a part of a student's time for two years to complete. If begun in the senior year it can be completed at the same time the Teacher's Recommendation is ordinarily obtained. The best arrangement of the work will be as follows:

COURSES	1st Sem.	2d Sem.	3d Sem.	4th Sem.
*Woodworking	2-3	..	..	..
*Linear Drawing and Lettering	1	..	..	..
Descriptive Geometry	1	4	..	..
Foundry Work	3	..	..	..
Pattern Shop Work	..	3	..	..
*Freehand Drawing	..	..	3	3
*Forge Work	..	..	3	..
*Machine Shop Work	..	..	..	3
*Machine Drawing	..	..	..	2-3
Minimum units	7	7	6	8

3. Physical Training Directors' Course

This curriculum is designed to prepare students to teach physical training and to direct a gymnasium in connection with a public or private secondary school or a Y. M. C. A., or to supervise municipal playground work. It is possible to complete this course in two years, but the best arrangement will be to divide the work over three years. The major subject may be in Zoology or Education, in which case other work in the department will be expected to meet major requirements, or the major may be elsewhere and the course be carried as a teaching minor. For an outline of the work for men and women, see under Physical Training and Personal Hygiene.

VI. Courses in Other Departments

The following Teachers' Courses in other departments are designed for students preparing to teach these special subjects in secondary schools. Such courses are usually necessary for the departmental recommendation, but do not count again as part of the units required in Education for a Teacher's Certificate.

a. Teacher's Course in Greek.—[See Department of Greek.]
b. Teacher's Course in Latin.—[See Department of Latin.]
c. Teacher's Course in German.—[See Department of Germanic Languages.]
d. Teacher's Course in French.—[See Department of Romanic Languages.]
e. Teacher's Course in English.—[See Department of English.]
f. Teacher's Course in History.—[See Department of History.]
g. Teacher's Course in Drawing.—[See Department of Graphic Art.]
h. Teacher's Course in Elementary Physics.—[See Department of Physics.]

HISTORY

†Ephraim Douglass Adams, Arley Barthlow Show, Edward Benjamin Krehbiel, Professors.
Payson Jackson Treat, Henry Lewin Cannon, Associate Professors.
Edgar Eugene Robinson, Percy Alvin Martin, Assistant Professors.
Yamato Ichihashi, Mary Wilhelmine Williams, Instructors.
‡David Starr Jordan, [2]Allen Marshall Kline, Lecturers.
Frank Elliott Barrow, Clayton Douglass Carus, John Gaylord Howes, Francis Marion Russell, Hettie Alice Withey, Graduate Assistants.
[2]Ileen Bullis, [2]George Charles Hodges, Ruth Price, [2]Martha Tulloch, Elizabeth Mayo Wheeler, Undergraduate Assistants.
Florence Sophia Ober, Stenographer.

The Teacher's Recommendation.—To obtain a Teacher's Recommendation in History the applicant must have completed, in a manner acceptable to the Department, three of the courses, 3, 4 (or 11*a* or 11*b*), 5, 6, and 7, one advanced course (throughout one year), and the Teachers' Course in History (History 16).

Introductory Courses

1. Historical Training Course.—A practical course in the finding and handling of historical material. Required of, and limited to, first-year History majors.

T 8:15 1 unit, both semesters (Martin)

[History of Greece.—See Greek 16.]

[History of Rome.—See Latin 29.]

[Studies in Roman History.—See Latin 30.]

3a. The Early Middle Ages, 395-1095.—A general course, open to all students.

MWF 10:15 3 units, 1st semester (Show)

3b. The Later Middle Ages, 1095-1492.—A continuation of course 3*a*. Open to all students who have had course 3*a* or a satisfactory equivalent.

MWF 10:15 3 units, 2d semester (Show)

4a. English History to 1603.—General outline course, open to a limited number of first-year students.

MWF 8:15 3 units, 1st semester (Cannon)

†Absent on leave, second semester, 1913-14.
‡Absent during 1913-14.

4b. English History from 1603 to the present time.—A continuation of course *4a*.

MWF 8:15 3 units, 2d semester (CANNON)

5a. Modern European History, 1500-1715.—A general outline course. Not open to first-year students.

TTh 9:15 2 units, 1st semester (KREHBIEL)

5b. Modern European History since 1715.—A continuation of course *5a*.

TTh 9:15 2 units, 2d semester (KREHBIEL)

6a. American History, 1607-1760.—A study of the English colonization of the Atlantic Seaboard and of the westward movement of colonists of the British Empire. An introductory course open to students of all departments.

TTh 11:15 2 units, 1st semester (ROBINSON)

6b. American History, 1760-1815.—A study of the Revolution and the Constitution. Particular attention is paid to western migration, the development of frontier areas, and the influence of the West on national affairs. A continuation of *6a*.

TTh 11:15 2 units, 2d semester (ROBINSON)

7. United States History since 1815.—Open to students who have had one course in history.

TTh 10:15 2 units, both semesters (ADAMS, KLINE)

8a. History of Japan.—A survey of, and an attempt to interpret, the history of ancient and medieval civilization of Japan. Not open to first-year students.

MWF 9:15 3 units, 1st semester (ICHIHASHI)

8b. History of Japan.—A critical examination of the more important phases of modern civilization of Japan (since 1600). Open to students who have had course *8a*, and to others by special permission.

MWF 9:15 3 units, 2d semester (ICHIHASHI)

9a. The Far East.—An account of the relations between Western nations and the peoples of Eastern Asia. The history of the Portuguese, Dutch, and British possessions in the Far East. Not open to first-year students.

MWF 11:15 3 units, 1st semester (TREAT)

9b. The Far East.—China, Indo-China, Japan, the Philippines. Not open to first-year students.

MWF 11:15 3 units, 2d semester (TREAT)

10. History of Latin America.—An outline course dealing with the colonial expansion of Spain and Portugal in America and with the political, social, and industrial development of the leading republics of Latin America. Open to all students.

TTh 10:15 2 units, both semesters (MARTIN)

INTERMEDIATE COURSES

11a. English Constitutional History.—The course attempts to explain the development and operation of the present English constitution as well as to give the background for American constitutional history. Not open to first-year students.

TTh 8:15 2 or 3 units, both semesters (CANNON)

11b. English Narrative History.—An intensive course. Open to a limited number of other than first-year students.

TWThF 10:15 4 units, both semesters (CANNON)

12. History of Germany.—General outline course. Not open to first-year students.

MWF 9:15 3 units, both semesters (MARTIN)

13a. The Ancient Church.—A general course in Church History from the Apostolic Age to Gregory the Great (A. D. 1-590), with special reference to its connection with the general movements of the age. Open to all except first-year students.

TTh 10:15 2 units, 1st semester (SHOW)

13b. The Mediaeval Church.—A continuation of course 13*a*, to the end of the Crusades and the beginning of the church reform movement.

TTh 10:15 2 units, 2d semester (SHOW)

14a. German Institutions in the Early Middle Ages.—Lectures on the economic, social, and political institutions of Germany in the Ancient and Frankish periods. Open to third-year students who have taken courses 3*a* and 3*b*. [Not given in 1913-14.]

2 units, 1st semester (SHOW)

14b. German Institutions in the Later Middle Ages.—A continuation of course 14*a* through the Feudal periods. [Not given in 1913-14.]

2 units, 2d semester (SHOW)

15a. The French Revolution and Napoleon.—A lecture course. Discussions, investigations, and reports form a part of the work. Open to students who have had course 5*b*, or an equivalent. [Not given in 1913-14.]

3 units, 1st semester (KREHBIEL)

15b. Europe in the Nineteenth Century.—A very considerable portion of this course is devoted to contemporary politics in Europe. The course is intended for third- or fourth-year students who are prepared to make independent investigations and reports upon present day affairs in Europe. Prerequisite: 5*b* or an equivalent.

MWF 9:15 3 units, 1st semester (KREHBIEL)

16. Teachers' Course.—Lectures, recitations, and practice dealing with the problems of history teaching in elementary and secondary schools.

TTh 2:30 2 or 3 units, both semesters (SHOW)

17a. The Westward Movement.—A survey of the expansion of the American people into the Mississippi Valley and the American occupation of California and the Pacific Northwest. Open to third- and fourth-year students who have a satisfactory knowledge of American History.

MWF 10:15 3 units, 1st semester (ROBINSON)

17b. History of the Far West.—A study of the growth and development of the Trans-Mississippi Region; its political reorganization and its influence upon national and international affairs. Open to students who have taken 17*a*.

MWF 10:15 3 units, 2d semester (ROBINSON)

18a. American and English Relations During the Civil War.—Use of British and American documentary material. Open to third-year students who have taken general courses in English and American history. The documents are selected by the instructor, and the course is intended to furnish training in the interpretation of documentary material.

MWF 11:15 3 units, 1st semester (ADAMS)

18b. American and English Relations, 1815 to 1860.—Search for and selection of material on some assigned topic in diplomacy, with especial reference to use of the United States documents and the British sessional papers.

MWF 11:15 3 units, 2d semester (WILLIAMS)

19a. History of Mexico and California.—A somewhat detailed study of the History of Mexico up to the present time and the History of California up to 1848. Open to those who have taken History 10 and to others with permission of the instructor.

MWF 11:15 2 or 3 units, 1st semester (MARTIN)

19b. History of Brazil.—A somewhat detailed study of the History of Brazil up to the present time including a comparison of Brazilian

political institutions with those of Spanish America and the United States. Open to those who have taken History 10 and to others with permission of the instructor.

MWF 11:15 2 units, 2d semester (MARTIN)

20. International Conciliation.—A course of lectures touching the effects of war and the possibility of substituting peaceful means of settling the differences of nations. Not open to first- and second-year students.

TTh 11:15 2 units, 2d semester (KREHBIEL)

21. Tropical Colonization in the Far East.—A study of the present methods of the English, Dutch, French, German, and American peoples in managing tropical dependencies in the Far East. Open to students who have taken courses 9*a* and 9*b*.

TTh 9:15 2 units, 1st semester (TREAT)

22. History of Australasia.—An account of British colonization in Australia and New Zealand to the present time. Open to third-year students who have a satisfactory knowledge of English history. [Not given in 1913-14.]

2 units, 2d semester (TREAT)

23. Governments of the Far East.—A study of the present governmental systems of China and Japan. Open to students who have taken course 9*b*.

TTh 9:15 2 units, 2d semester (TREAT)

25. International Law.—Nature and sources of international law; territorial rights of states; territorial jurisdiction; jurisdiction on high seas; nationality; belligerency; neutrality. Open to second- and third-year law students, and to well-prepared fourth-year students, in history, economics, and political science. Scott, Cases on International Law. [Not given in 1913-14.] (KREHBIEL)

ADVANCED COURSES

[Intended primarily for graduate students, but open to advanced undergraduates, with permission of their instructors.

26. Japanese Institutions.—A study of the development of Japanese institutions, political, social, economic, and religious. Assignment of topic to each student and thesis required.

By appointment 2 units, both semesters (ICHIHASHI)

27. Mediaeval Institutions.—A practical study of select documents in the field of German constitutional history. Ability to read Latin and German is required.

By appointment 2 units, both semesters (SHOW)

28. Seminary in the History of the West.—Subject for 1913-14: The Campaign of 1896.

TTh by appointment 2 units, both semesters (Robinson)

29. Seminary in English History.—Subject for 1913-14: The Spanish Armada; Irish Home Rule.

F 2:30-4:30 2 units, both semesters (Cannon)

31. American Diplomatic History since 1815.—Open to students who have had course 18, and to others by special permission. Thesis required.

TTh 3:30 2 units, both semesters (Adams, Williams)

32. Political Parties in England, France, and Germany.

W 2-4 2 units, both semesters (Krehbiel)

35. Seminary in American-European Relations in Nineteenth Century.—Assignment of topic to each student and thesis required.

By appointment 2 units, both semesters (Adams)

36. American Diplomacy in the Far East.—Open to students who have had course 9*b*.

M 2:30-4:30 2 units, both semesters (Treat)

ECONOMICS

Murray Shipley Wildman, Albert Conser Whitaker, Professors.
†Ira Brown Cross, Donald Frederick Grass, Stephen Ivan Miller, Jr., Victor J. West, Assistant Professors.
Paul Wander, Instructor.
William Edward Cox, Acting Instructor.
George Archibald Clark, Lecturer.
Jacob Anton de Haas, Mabel Newcomer, Frank Marion Russell, Assistants.

Graduation.—To obtain recommendation for the degree of Bachelor of Arts in Economics a student is expected to secure credit for a minimum of 30 units in this department. Of these, 9 units should be in courses listed as advanced courses.

A minimum of 12 units in the department is a prerequisite to registration in any advanced courses.

In addition to the work in this department majors in Economics are expected to secure credit for about 40 units of specified courses in other departments. These courses should be chosen in consultation

†Absent on leave, 1913-14.

with the department adviser, and the work completed during the first two years, if possible.

Teacher's Recommendation.—To obtain a Teacher's Recommendation in Economics the applicant must have completed five of the following courses: 1, 2, 3, 4, 5, 10, 11, 12, 25, 26, 31, 32.

Course 1 or 1a is a prerequisite to all other courses in the department, except course 8, which may be taken at the same time.

Elementary and General Courses

1. Elements of Economics.—A general and introductory course. One lecture hour and two quiz hours each week. Majors of other departments, when juniors or seniors, may register for two units credit, omitting the lecture if necessary.

MWF 9:15 3 units, both semesters

(Wildman, Grass, Miller, Cox, de Haas, Newcomer, Russell)

1a. Elements of Economics.—Covering the same ground as course 1 to accommodate students entering at mid-year. Not open for credit to those who have had credit in course 1.

MTWThF 11:15 5 units, 2d semester (Wildman, de Haas)

2. Accounting.—Development of accounting; theory of debit and credit; bookkeeping forms; preparation of balance sheets; their interpretation; application of theory and principles to various systems of accounts; practical accounting problems. Should be taken by students expecting to enter course 10.

MWF 11:15 3 units, 1st semester (Grass)

3. Resources and Trade of the United States.—A study of the resources on which American industries are based and those of foreign countries with which we have trade relations. Attention will also be given to problems of conservation and economic utilization.

MWF 8:15 3 units, 1st semester (de Haas)

4. Money and Banking.—Forms and laws of money and credit, and the principles and practice of banking in this country and Europe, with special regard to recent reforms.

TWThF 9:15 4 units, 1st semester (Wildman)

5. Railway Transportation.—The present American railway system, railway finance, railway statistics, theory of rates, methods of public control. MWF 8:15 3 units, 2d semester (Miller)

6. Introduction to Statistics.—A study of elementary statistical methods, and an examination of statistical data relating to selected social and economic problems.

MWF 8:15 3 units, 2d semester (Cox)

7. **Economic History.**—A study of selected periods in the economic and social history of England and the United States.

MWF 8:15 3 units, 1st semester (Cox)

8. **General Political Science.**—An introductory study of the nature and origin of the state, forms of government, theories of state functions, citizenship, and political parties. Open to all students who have had or are taking Economics 1.

TTh 8:15 2 units, 1st semester (West)

Intermediate Courses

10. **Corporation Finance.**—The business corporation; its formation and internal organization; its securities, capitalization, financial policy and report; promotion, underwriting, and reorganization.

MTWTh 11:15 4 units, 1st semester (Whitaker)

11. **Public Finance.**—A general course dealing chiefly with the principles underlying public expenditures, revenues, debts, and financial administration.

MWF 10:15 3 units, 1st semester (Miller)

12. **Labor Problems.**—A study of the more important phases of trade unionism in England and the United States, including a history of the labor movement and a discussion of strikes, lockouts, boycotts, the blacklist, the closed shop policy, and allied questions.

MWF 11:15 3 units, 1st semester (Wander)

13. **Charities.**—A general survey of the leading economic, social, and individual causes of poverty, and a study of the methods and principles of modern relief.

MWF 9:15 3 units, 1st semester (Wander)

14. **Corrections.**—The causes of crime; proposed remedies; the treatment of the criminal; the prevention of crime; juvenile delinquency.

MWF 9:15 3 units, 2d semester (Wander)

15. **Financial History of the United States.**—A study of the finances of the federal government with special reference to the tariff, the growth of expenditures and the public debt.

TTh 10:15 2 units, 2d semester (Miller)

16. **Foreign Exchanges.**—The foreign exchanges; the system of international and commercial payments; a study of the forms and methods of the exchange department of banking. Domestic exchange will also be considered. Prerequisite: course 4.

TTh 11:15 2 units, 2d semester (Whitaker)

17. Insurance.—General principles of insurance, their development and application to modern business; the principles, forms, and technique of life insurance and fire insurance; recent tendencies, as government insurance and workingmen's compensation.

TTh 9:15 2 units, 2d semester (GRASS)

ADVANCED AND GRADUATE COURSES

20. American Methods of Taxation.—An intensive study of the federal, state, and local taxes, including the customs and internal revenue duties, the income tax, the general property and corporation taxes, and the inheritance and various forms of business taxes. Should be preceded by courses 10 and 11.

MWF 8:15 3 units, 1st semester (MILLER)

21. Investments.—A study of the issues of national, state, and municipal governments, of railways and industrial corporations, the organization and methods of bond and brokerage houses. Open to students who have taken course 10.

TTh 9:15 2 units, 2d semester (WILDMAN)

22. Seminar in Labor.—A research course devoted solely to an intensive study of the labor movement on the Pacific Coast. Open only to seniors and graduate students who have had course 12 in addition to nine other units of work in the department.

M 2:30-4:30 2 units, both semesters (WANDER)

23. Business Administration.—An introductory study of the methods employed in modern industrial and commercial enterprises, the organization and correlation of departments, the psychology of selling and buying, promotion of efficiency and cooperation in the personnel.

MWF 11:15 3 units, 2d semester (GRASS)

24. Secretarial Training.—Offering in the first semester the fundamental training of a stenographer, in the second, practical work in connection with the common range of secretarial problems, so far as possible carried out under actual office conditions. Open only to junior and senior students who expect to enter upon a business career. One hour of instruction and two hours practice, three times weekly. Given also as Education 33. [Not given first semester, 1913-14.]

By arrangement 2 units, both semesters (CLARK)

25. Value and Distribution.—The factors or influences which determine the values of economic goods, and those which determine incomes or the "shares in the distribution of wealth." Prerequisite, 12 units of Economics and senior standing, or the special permission of the instructor.

MTWTh 10:15 4 units, both semesters (WHITAKER)

26. History of Political Economy.—A brief survey of economic writers and literature down to 1850. The development of economic thought in its environment will be studied. A reading knowledge of French, German, or Italian is desirable.

TTh 11:15 2 units, both semesters (GRASS)

27. Graduate Seminar.—Open only to candidates for higher degrees and members of the department.

T 7:30-9:30 2 units, both semesters (WILDMAN)

28. Combinations and Trusts.—Industrial combinations and trusts, and the question of governmental regulations. Prerequisite, course 10.

MW 11:15 2 units, 2d semester (WHITAKER)

29. Socialism.—A discussion of the history and fundamental principles of Socialism and allied movements. Not open to first- or second-year students.

MWF 11:15 3 units, 2d semester (WANDER)

POLITICAL SCIENCE

31. American Politics.—An examination of the American system with reference to the extent and effectiveness of popular control, special consideration being given to problems connected with elections and legislation. Not open to first- or second-year students.

MWF 11:15 3 units, 1st semester (WEST)

32. Municipal Government.—Analytic and comparative study of city government in Europe and America; relation of the city to the central government; organization of city government; special problems in administration.

MWF 9:15 3 units, 1st semester (WEST)

33. Parliamentary Government.—A study of the governments of England and France. Prerequisite, course 8. Not open to first-year students. MWF 11:15 3 units, 2d semester (WEST)

34. Seminar in Political Science.—Intensive study of topics in the field of municipal government. In 1913-14 the subject was Municipal Finances. Open only to seniors and graduate students who have had courses 11, 20, and 32.

M 1:30-3:30 2 units, 2d semester (WEST)

35. Political Parties.—Development of nominating machinery and political issues in the United States, analysis of party organization, consideration of party activities and reform movements, and inquiry into the true functions of parties. Prerequisites: Economics 8 and 31, or History 6 or 7.

MWF 9:15 3 units, 2d semester (WEST)

LAW

†Frederic Campbell Woodward, Arthur Martin Cathcart, Wesley Newcomb Hohfeld, Charles Andrews Huston, ‡Joseph Walter Bingham, Emlin McClain, Professors.
Marion Rice Kirkwood, Assistant Professor.
Samuel Watson Charles, Lecturer.

The Law School was established, as a department of the University, in 1893. Its purpose is to provide a thorough legal education for students who are fitted by their maturity and their previous academic training to pursue professional study under university methods of instruction. The curriculum covers three academic years and constitutes an adequate preparation for the practice of law in any English speaking jurisdiction. Elective courses in Code Pleading and in California Practice are offered, and graduates of this school are admitted to the California Bar without examination. A comprehensive group of courses in Public Law, of value not only to the law student but to the student who contemplates entering the diplomatic, consular, or other government service, is a feature of the curriculum.

Only college graduates and students who have completed two years of work in the pre-legal curriculum of this University (see below), or its equivalent, are admitted as regular students. Under certain conditions persons over twenty-three years of age who have had experience in business, or who evince uncommon ability, may be admitted as unclassified students, not candidates for a degree.

The Library

The Law Library contains over 16,500 volumes, including complete sets of the English, Irish, Scotch, and Canadian reports, the reports of all the Federal courts, a practically complete set of the reports of the American States and of the Canadian Provinces, the National Reporter system, the standard collections of cases (including the American Decisions, American Reports, American State Reports, Lawyers' Reports Annotated, and American and English Railway Cases), a working collection of statutes, text-books, encyclopedias, digests, and other books of reference, and sets of the leading American, British, and Continental legal periodicals.

†Absent on leave, first semester, 1913-14.
‡Absent on leave, second semester, 1913-14.

Admission to the Law School

Admission to the professional curriculum in law is granted to students duly enrolled in the University, as follows:

I. To students who have received the degree of Bachelor of Arts, or an equivalent degree, from this University or some other institution of recognized collegiate rank.

II. To students who have received credit for two years of work in the pre-legal curriculum offered by this University, or the substantial equivalent thereof in some other institution of recognized collegiate rank.

III. In the discretion of the Faculty of Law, to students over twenty-three years of age who cannot meet the foregoing requirements, but who have had experience in business or who evince uncommon ability. Such students are termed "unclassified," and are given a certificate in lieu of the degree conferred upon regular students.

Admission to the Bar

It is provided by Section 280*b* of the California Code of Civil Procedure, that any person producing evidence of having satisfactorily completed the three years' course of law study prescribed by this Law School, shall be entitled to a license to practice law in all the courts of the State, subject to the right of the chief justice of the Supreme Court to order an examination, as in ordinary cases of applicants without such evidence. The certificate required by the statute will be issued, upon request, to any regular or special student who shall have received an aggregate of 75 units of credit in the Law School, including credit in Pleading and California Practice and excluding credit in the course in Introduction to the Study of Law, and who, in addition thereto, shall have received credit in the course in English Composition (English 2).

Instruction in Practice

A special effort is made to impart to the student a thorough knowledge of the rules of procedure and practice, and to enable him to acquire a creditable degree of skill and facility in the application of such rules to conditions of actual litigation. To these ends, courses are offered in Common Law and Code Pleading, and in California Practice. In the last-mentioned course particularly, the student is afforded practical experience in the commencement of actions, the preparation of pleadings, the trial of issues of fact, and the argument of questions of law.

Moot Court

A Moot Court, for the argument of questions of law, is conducted by Professor McClain. Sessions are held once a week throughout the year, and the work is open to second- and third-year law students.

Regulations

To receive credit in any course in the Law School, a student must obtain a minimum grade of fifty per cent in classroom work and also in the written examination held at the end of the course. His average for the two must reach sixty per cent. In estimating this average the final examination will count two-thirds and the classroom work one-third. The right to take the final examination is conditioned on regular attendance and the maintenance of the required grade for class work.

A student whose average standing is between fifty and sixty will be given a *condition* and one whose grade is below fifty will be given a *failure*. A *condition* requires a re-examination and a *failure* a repetition of the entire course.

No student may register for more than fifteen hours of law per week. A student may register as visitor in any course in which he is entitled to register as a regular student, provided that such registration shall not given him more than fifteen hours of law.

Fees and Expenses

For professional law courses tuition fees are charged as follows: to students registering for thirteen or more units in law in any semester, $50 per semester; to students registering for less than thirteen units in law in any semester, $4 per unit per semester; but in the case of undergraduates who are taking law courses, the incidental fee, charged to all undergraduates, or such portion thereof as may be required, is applied in payment of the charge for tuition.

A syllabus fee of $0.50 per semester is charged in all law courses except the following: Introduction to the Study of Law, $1; Torts, $1.50; Common Law Pleading, $1; Code Pleading, $5; Municipal Corporations, $3; Water Rights, $3.50; California Practice, $5. A diploma fee of $5 is payable before graduation.

All students are furthermore required to pay a hospital fee of $2 per semester. This entitles them to avail themselves of the hospital facilities of the Students' Guild at a rate of $1 per day.

The cost of text-books in the law courses will average $25 per year for the three years of the professional curriculum.

Order of the Coif

A chapter of the Order of the Coif, a law school honor society, was established in the law school in 1912. In the second semester of each year, the four third-year law students who, in the judgment of the faculty, have made the highest records for the entire three years, are elected to membership.

Pre-Legal Curriculum

For undergraduate students who enter with the intention of preparing for the study of law, a pre-legal curriculum is offered by the University under the direction of the Faculty of the Law School. This curriculum ordinarily occupies four years and requires that the student obtain 120 units of university credit. The equivalent of three years is given to general culture studies (for instruction in which no tuition is charged) and of one year to the professional study of law.

In electing courses in general culture subjects it is expected that 37 units will be applied as follows: To English Composition, 4; to a language or languages other than English, 12; to English and American History, 9; to Economics, 6; to Mathematics, Logic, Chemistry, or Physics, 6.

Students who satisfactorily complete the full pre-legal curriculum are granted the degree of Bachelor of Arts by the University, and by reason of having had one year of law study as undergraduates may satisfy the requirements for the degree of Juris Doctor by two years of graduate law study.

Students who satisfactorily complete the first two years of the pre-legal curriculum, including the 37 units specified above, may enter the law school as candidates for the degree of Bachelor of Laws.

Law School Curriculum

The work of the first year in the Law School is prescribed. The work of the second and third years is elective, but the courses in Administrative Law, Private Corporations, Municipal Corporations, Evidence, and California Practice may not be taken, ordinarily, before the third year.

The courses offered in the Law School are as follows:

Preliminary Course

[Open to students of all departments who have 25 units of credit, and required of pre-legal students.]

1. **Introduction to the Study of Law.**—Nature, origin, and evolution of law; sources of law; sanctions of law; legal rights and duties;

classification of law; historical sketch of English and American law. The methods of legal study; the use of reports, digests, encyclopedias, and treatises; practice in the analysis of cases and in the preparation of abstracts and briefs. Baldwin, American Judiciary; and selected cases.

TTh 11:15 2 units, 2d semester (KIRKWOOD)

FIRST YEAR COURSES

2. Contracts.—Offer and acceptance; consideration; contracts under seal; contracts for the benefit of third persons; assignments; joint and several contracts; the Statute of Frauds; express and implied conditions; impossibility of performance; illegality; discharge of contracts. Williston, Cases on Contracts.

3 units, both semesters (WOODWARD)

[*Note.*—In 1913-14 Contracts was given as a five unit course in the second semester, MTWThF 9:15.]

3. Torts.—Trespass to person, to real property, and to personal property; excuses for trespass; conversion; legal cause; negligence; contributory and imputed negligence; plaintiff's illegal conduct as a defense; duties of land-owners; hazardous occupations; liability for animals; deceit, defamation, slander, libel, privilege, malice; malicious prosecution, criminal and civil; interference with social and business relations, inducing breaches of duty, fair and unfair competition, strikes, boycotts, business combinations. Cases on Torts: Ames, Vol. I (3d ed.); Smith, Vol. II (2d ed.).

3 units, both semesters (CATHCART)

[*Note.*—In 1913-14 Torts was given as a five unit course in the first semester, MTWThF 9:15.]

4. Criminal Law.—Nature and soures of criminal law; crime as an act; attempts; criminal intent; circumstances affecting illegality of act; specific offenses; crimes against the person, larceny and allied offenses, crimes against the dwelling-house, conspiracy. Beale, Cases on Criminal Law (2d ed.).

TWThF 10:15 4 units, 1st semester (MCCLAIN)

5. Introduction to Property.—Distinction between real and personal property; acquisition of rights in personal property; gifts; bailment; lien; pledge. Real property: tenures; estates, seisin and conveyance; incidents of ownership in real property; fixtures; easements; covenants as to use; public rights; franchises; rents. Gray, Cases on Property, Vols. I and II (2d ed.), and selected cases.

MTWF 8:15 4 units, 1st semester (KIRKWOOD)

6. Agency.—Nature of relation; appointment; liabilities of principal for agent's torts, contracts, crimes; liabilities of agent; parties to writings; undisclosed principal doctrines; delegation of agency, termination; ratification. Reinhard, Cases on Agency.

TWThF 10:15 4 units, 2d semester (HUSTON)

7. Equity I: Trusts.—Historical development of equity; relation between equitable rights and powers and legal rights and powers; jurisdiction, procedure and remedies of courts of equity; the Anglo-American system of uses and trusts considered in comparison with closely related legal and equitable relations; the creation, the transfer, and the execution of all forms of trusts, express, resulting, and constructive; the special doctrines of charitable trusts, including interpretion and *cy pres;* priorities between competing equities; the construction of trust deeds and wills. Ames, Cases in Equity Jurisdiction, Vol. I (in part); Ames, Cases on Trusts (2d ed.).

MTWTh 11:15 4 units, 2d semester (HOHFELD)

SECOND AND THIRD YEAR COURSES

8. Constitutional Law.—Nature and sources of American constitutional law; adoption and amendment of constitutions; separation of powers; power of judiciary to declare acts of the legislative and executive branches of government unconstitutional; citizenship; privileges and immunities of citizenship; due process of law; police power; eminent domain; taxation; ex post facto and retroactive laws; laws impairing the obligation of contracts; regulation of commerce; money; war; government of territories. Open to second- and third-year law students and to well-prepared fourth-year students in history, economics, and political science. Hall, Cases on Constitutional Law.

MTWF 9:15 4 units, 2d semester (CATHCART)

9. Administrative Law and Public Officers.—Administrative regulations; jurisdiction, discretion, adjudication; enforcement of orders; habeas corpus; mandamus; certiorari; equitable jurisdiction in public law. Open to third-year law students. Freund, Cases on Administrative Law. [To be given in 1914-15.]

3 units, 1st semester (HUSTON)

10. Municipal Corporations.—Nature and functions; creation, alteration, and dissolution; legislative control; internal organization; Powers: legislation, police regulation, taxation, expenditure, making of contracts, dealing with property; Liability: on contract, for torts; Remedies. Beale, Cases on Municipal Corporations.

M 11:15; WF 8:15 3 units, 2d semester (HUSTON)

11. Conflict of Laws.—The principles and rules of "private international law" determining the extent to which the domestic system of law adopts and applies provisions of foreign systems in cases involving extraterritorial factors; more especially (1) nature and effect of domicile and nationality; (2) jurisdiction of courts in proceedings *in personam,* proceedings *in rem,* and proceedings for *divorce;* (3) respective applicability and effect of domestic laws and foreign laws in relation to marriage and other domestic relations; contractual, quasi-contractual, delictual, and judgment obligations; the creation, transfer, taxation, devise, and inheritance of all forms of property interests. Beale, Cases on Conflict of Laws, Vols. I, II, and III.

MTWTh 9:15 4 units, 1st semester (HOHFELD)

12. Admiralty.—Admiralty jurisdiction, basis; maritime contracts, torts, and crimes; maritime liens, ex contractu, ex delicto, priorities, discharge; bottomry and respondentia obligations; salvage; general average. Ames, Cases on Admiralty. [Not given in 1913-14.]

2 units, 2d semester (HUSTON)

13. Roman Law.—A study of the Institutes of Gaius and Justinian and of selected titles from the Digest, Code, and Novels. [Not given in 1913-14.]

(HUSTON)

14. Title to Land I: Possession and Landlord and Tenant.—Nature and importance of legal possession; remedies to recover legal possession wrongfully withheld; effect of statutes of limitations; tacking of periods of successive adverse possessions; actual occupation as element of title to legal possession; "constructive" adverse possession under color of title; intent as element of title to legal possession; possession through occupation of a servant or agent; possession through occupation of a tenant; relationship of landlord and tenant compared with rights and liberties of persons in various other relations; possession through a co-tenant's occupation; exceptions and interruptions to running of statutes of limitations. Creation of relationship of landlord and tenant; duration of tenant's interest; eviction and its effects; remedies of landlord for non-performance of tenant's obligations; remedies of tenant against landlord; covenants running with the land between landlord and tenant; rights, liberties, and duties of landlord with respect to third persons; rights, liberties, and duties of tenant with respect to third persons. Gray, Cases on Property (2d ed.), Vol. III; and selected cases and statutes. [To be given in 1914-15.] 3 units, 1st semester (BINGHAM)

15. Title to Land II: Conveyances.—Accretion; prescription; creation of interests in land by agreement or conveyance; methods of transfer of interests in land at common law and under statutes; execution of deeds; interpretation of instruments of conveyance; covenants for title; conditions; fraudulent conveyances; recording. Prerequisite, course 5. Gray, Cases on Property (2d ed.), Vols. III and VI; and selected cases and statutes. [To be given in 1914-15.]

3 units, 2d semester (BINGHAM)

16. Wills and Administration.—Acquisition of property on the death of former owner, escheat, descent, occupancy, gifts *mortis causa;* the making, revocation, and republication of wills, payment of legacies and distribution, ademption and lapse of legacies. Prerequisite, course 5. Gray, Cases on Property, Vol. IV (2d ed.), and selected cases.

MWF 10:15 3 units, 1st semester (BINGHAM)

17. Future Interests.—Vested and executory interests; construction of language creating future interests; powers; rule against perpetuities; provisions for forfeiture and restraints on alienation; the California law of future interests. Prerequisite: courses 7 and 14. Gray, Cases on Property, Vol. V and part of Vol. VI (2d ed.), and selected cases and statutes.

MTWF 8:15 4 units, 1st semester (BINGHAM)

18. Water Rights and Irrigation Law.—A course in the intensive study of the law of water supply rights, with especial reference to water rights in the Western States. Selected cases and legislative enactments. [To be given in 1914-15.]

3 units, 2d semester (BINGHAM)

19. Mining Law.—A course on mining titles under the Federal mining acts, with especial reference to mining rights in the Western States and Alaska. Costigan, Cases on Mining Law; and legislative enactments. [To be given in 1914-15.]

2 units, 2d semester (BINGHAM)

20. Persons and Domestic Relations.—Marriage: promise to marry and breach; marriage as a contract or relation; annulment; divorce; separation. Parent and child: custody, support, services, and earnings of child; relations as to torts; adoption. Infants: period of infancy; infants' contracts and conveyances, torts, and crimes. Husband and wife: rights of husband as to wife's property; rights of each as to earnings, services, and society of the other; husband's interest in damages for tort to wife; husband's liability for torts and contracts of wife; husband's duty to support wife and wife's authority to bind

husband by her contracts; married women's contracts, conveyances, and devises; estoppel of married women; liability of married women for torts and responsibility for crimes; contracts, conveyances, and suits between husband and wife; husband's right to custody of wife. Vernier, Cases on Marriage and Divorce; and Kales, Cases on Persons and Domestic Relations.

TWF 8:15 3 units, 2d semester (McClain)

21. Quasi-Contracts.—Origin and nature of quasi-contracts: Benefits conferred in misreliance on right or duty; general principles; misreliance resulting from mistake of law; misreliance on invalid contract, on contract unenforceable because of Statute of Frauds, on illegal contract, on contract impossible of performance, on contract unenforceable because of breach, on supposed requirement of valid contract, on non-contract obligation, on ownership of property: Benefits conferred through dutiful intervention in another's affairs: Benefits conferred under constraint; constraint of duress, of legal proceedings, of tax or assessment: Action for restitution as alternative remedy for breach of contract and for tort. Woodruff, Cases on Quasi-Contracts. [To be given in 1914-15.]

3 units, 2d semester (Woodward)

22. Public Utilities.—The nature, rights, and duties of public service callings; railroads and canals; telephone and telegraph; gas, water, irrigation, and other public utilities. Wyman, Cases on Public Service Companies (2d ed.); also selected cases and statutes. [Not given in 1913-14.]

3 units, 2d semester (Cathcart)

23. Bailments and Carriers.—Bailments in general including bailments for hire, for services to be performed, and for hired use. Special classes of bailments involving ordinary liability: pledges; warehousemen. Special classes of bailments involving exceptional liability: innkeepers; common carriers of goods; common carriers of passengers. McClain, Cases on Carriers.

MTTh 10:15 3 units, 2d semester (McClain)

24. Sales.—Subject matter of sale; executory and executed sales; bills of lading and jus disponendi; seller's lien and right of stoppage in transitu; fraud; factors acts; warranty and remedies for breach of warranty; Statute of Frauds. Woodward, Cases on Sales. [To be given in 1914-15.]

4 units, 1st semester (Woodward)

25. Bills and Notes.—This course considers all types of negotiable paper, and discusses in detail the law of bills of exchange, notes, and checks, including: formal requisites; acceptance; indorsement; transfer; extinguishment; obligation of parties; diligence; specialty character; the effect of the Negotiable Instruments Law. Smith and Moore, Cases on Bills and Notes.

MTh 8:15; WF 10:15 4 units, 2d semester (KIRKWOOD)

26. Partnership.—Nature of a partnership, its purposes, and members; creation of partnerships; nature of partner's interest; firm name and good will; mutual rights and duties of partners; actions between partners, at law and in equity; powers of partners; liability for acts of partners in contract and tort; general liability of partners; dissolution and notice; consequences of dissolution; dissolution agreements respecting debts; distribution of assets to creditors, and between partners; limited partnerships. Gilmore, Cases on Partnership.

MW 8:15; F 9:15 3 units, 1st semester (HUSTON)

27. Private Corporations.—The nature of a corporation; the formation and organization of corporations; irregular incorporation; corporate powers; ultra vires; promoters; directors; shareholders; creditors; stock issue and payment, transfer. Open to third-year law students only. Warren, Cases on Corporations, and selected California cases.

TTh 10:15; MF 11:15 4 units, 1st semester (HUSTON)

28. Insurance.—Marine, fire, and life insurance. Insurable interest in various kinds of policies; concealments; misrepresentations; warranties and other matters affecting the validity of the contract; amount of recovery; subrogation; waiver, estoppel, election; powers of agents; assignees and beneficiaries. Wambaugh, Cases on Insurance. [To be given in 1914-15.] 3 units, 2d semester (MCCLAIN)

29. Suretyship.—Personal suretyship compared with real suretyship (mortgages, pledges, liens, etc.); suretyship obligations compared with insurance and indemnity obligations; guaranty and other forms of suretyship in relation to the Statute of Frauds; suretyship in transactions involving negotiable instruments; fidelity contracts and judicial bonds; surety's defenses due to original defects in his obligation or to its subsequent discharge; surety's right to subrogation, indemnity, contribution, or exoneration; creditor's right to surety's securities. This course must ordinarily precede that on Mortgages. Ames, Cases on Suretyship. [Not given in 1913-14.]

3 units, 2d semester (WOODWARD)

30. Mortgages.—All forms of mortgage security, both real and chattel; essential elements of legal and equitable mortgages; legal and equitable rights, powers and remedies of mortgagor and mortgagee with respect to title, dower, curtesy, possession, rents and profits, waste, collateral agreements, foreclosure, redemption: priorities; marshaling; extension of mortgages; assignment of mortgages; discharge of mortgages. This course must ordinarily be preceded by that on Suretyship. Kirchwey, Cases on Mortgage.

TTh 11:15 2 units, 2d semester (Woodward)

31. Equity II: Contracts and Torts.—The equitable relations and remedies involved in obligations *ex contractu* and obligations *ex delicto* considered in respect to their interplay with the corresponding legal relations and remedies; specific performance of contracts, with emphasis on the special trust relations arising under executory contracts between vendors and purchasers of realty; specific prevention and specific reparation of torts: prohibitory and mandatory injunctions for such torts as waste, trespass, nuisance, infringement of patents and copyrights, interference with business relations, violation of rights of privacy. Ames, Cases in Equity Jurisdiction, Vol. I. [To be given in 1914-15.] 4 units, 1st semester (Hohfeld)

32. Equity III: Interpleader, Bills of Peace, etc.—Special equitable remedies, including: interpleader; bills of peace and *quia timet;* cancellation of contract; clouds on title; perpetuation of testimony; rights of future enjoyment; reformation and recission of contract; mistake, fraud, misrepresentation; duress and undue influence. Ames, Cases in Equity Jurisdiction, Vol. II.

TTh 11:15 2 units, 1st semester (Kirkwood)

33. Damages.—Respective functions of court and jury in estimating damages; exemplary, liquidated, nominal, direct, and consequential damages; avoidable consequences; counsel fees; certainty, compensation, damages for non-pecuniary injuries; value; interest; and damages in certain actions of tort and contract. Beale, Cases on Damages (2d ed.).

TTh 8:15 2 units, 1st semester (McClain)

34. Bankruptcy.—Jurisdiction of the United States and the States; who may be a bankrupt; who may be petitioning creditors; acts of bankruptcy; where property passes to the trustee; provable claims; protection; exemptions and discharge. Williston, Cases on Bankruptcy. [Not given in 1913-14.]

2 units, 1st semester (Woodward)

35. Common Law Pleading.—This course consists of a general survey of the principles of common law pleading, with special emphasis upon the demurrer, confession and avoidance, and the traverse, followed by a special study of the more important forms of action, including the necessary allegations therein and the methods of pleading defenses. Whittier, Cases on Common Law Pleading; also selected cases. MF 11:15. 2 units, 1st semester (CATHCART)

36. Code Pleading.—The civil action; special proceedings; the complaint, including the facts constituting the cause of action, the methods of stating them, and the prayer for relief; the answer, including general and specific denials, new matter, equitable defenses, counterclaims, and union of defenses; the reply; demurrers. Open to second- and third-year law students. Prerequisite: course 35. Selected cases.

MWF 11:15 3 units, 2d semester (CATHCART)

37. Evidence.—Respective functions of judge and jury; "law and fact"; presumptions; burden of proof; judicial notice; classification of evidence; relevancy as primary test of admissibility; principles and rules relating to the following: misleading or unimportant matters, character, admissions, confessions, hearsay, witnesses' opinions and expert testimony, real evidence, evidence relating to execution, contents and interpretation of writings; various rules of substantive law stated in terms of "parol evidence rule"; competency of witnesses; privilege of witnesses; impeachment and confirmation of witnesses; examination of witnesses. Open to students having 31 units of credit in law. Thayer, Cases on Evidence (2d ed.).

3 units, both semesters (HOHFELD)

38. California Practice.—Organization and jurisdiction of courts; court records and files; proceedings prior to judgment, including: service and return of summons and motions relating thereto, appearances, provisional remedies, such as attachment, arrest, etc., *lis pendens,* the trial, exceptions and findings, verdict; the judgment, its entry and satisfaction; proceedings subsequent to judgment, including: stay of execution, costs, execution, motion for new trial, appellate proceedings; probate and administration proceedings; special proceedings, including writs of *certiorari,* mandamus, and prohibition; introduction to jurisdiction and procedure of Federal courts. Prerequisite, course 35. Open to students having 31 units of credit in law. California Code of Civil Procedure; also selected California cases.

TTh 2-3 2 units, both semesters (CHARLES)

39. Moot Court.—Argument of cases on submitted statements of facts; briefs; preparation of opinions.

W 2-3 1 unit, both semesters (McClain)

Special Lectures

In addition to the regular professional courses, a number of special lectures, most of them of a practical character, are given each year by experienced lawyers of the California Bar.

Courses in Other Departments

The following courses, offered by other Departments of the University, are of special interest and importance to pre-legal and law students:

Latin 3: Justinian.—The Institutes of Justinian are read both as a training in language and as an introduction to some conception of Roman law. Open to pre-legal and law students who have had three years of Latin.

2 units, both semesters (Fairclough)

History 25: International Law.—Nature and sources of international law; territorial rights of states; territorial jurisdiction; jurisdiction on high seas; nationality; belligerency; neutrality. Open to law students. Scott, Cases on International Law. [To be given in 1914-15.]

(Krehbiel)

GRAPHIC ART

Arthur Bridgman Clark, Associate Professor.
Henry Varnum Poor, Assistant Professor.
†Chloe Lesley Starks, Instructor.
Stella Belle Sankey, Teaching Assistant.
Birge Malcolm Clark, Undergraduate Assistant.

The Department aims to meet the needs of three classes of students: students who wish training in artistic perception and graphic expression for its general culture value; students who wish to begin professional art study while receiving other university training; and technical students to whom knowledge of representative drawing is essential.

Course 1 or its equivalent must precede all other courses excepting courses 6, 8, and 9. Technical courses may receive credit a second time when continued with sufficient skill.

†Absent on leave, 1913-14.

For students making Graphic Art their major study the following is an average programme: Elementary Still Life (4 units), and Linear Drawing and Lettering (1 unit), or Still Life (2 units); Landscape (3 units), 1st semester; Organic Form (3 units); Color (2 units); Perspective (2 units). Total, 10 to 12 units the first year.

Design (6 units); Handicraft (4 units); Lectures (4 units). Total, 14 units the second year.

Life (5 units); Color (5 units); Teachers' course (3 units). Total, 13 units the third year.

Illustration or Landscape (10 units); Handicraft (4 units). Total, 14 units the fourth year.

The Teacher's Recommendation.—The minimum requirement for the High School recommendation in Graphic Art is course 1 (3 units); chosen from courses 2, 3, and 5 (6 units); courses 10 and 11 (3 units each); course 13 (4 units). Total, 19 units.

1. **Elementary Drawing.**—Introductory course; still-life and drawing in the arcades in charcoal and color. Open to all students.

MTWTh 1:30-4:30 2 to 4 units, either semester (Starks)

2. **Drawing of the Head** (elementary).—

MTWThF 1:30-4:30 3 to 5 units, either semester (Poor)

3. **Drawing of the Head** (advanced).—A continuation of course 2 from life. Open to second-year students.

MTWThF 1:30-4:30 3 to 5 units, either semester (Poor)

4. **Color.**—Still-life painting in oils or water-colors. Open to students with credit for four units of drawing.

By arrangement 2 to 5 units, either semester (Poor)

5. **Landscape.**—Outdoor work. Charcoal, colored crayon, or oil paint is used in accordance with the capacity and needs of each student.

MTW 1:30-4:30 3 units, 1st semester (Clark)

6. **Lectures.**—Ideals and processes in pictorial and applied art. (First semester) Masters of the Renaissance; (Second semester) Nineteenth century and living painters. Open to all students.

TTh 11:15 2 units, either or both semesters (Clark)

7. **Organic Form.**—Drawing shells, leaf sprays, animal forms, and landscape with reference to decorative elements. The course is conducted primarily as a preparation for design.

MTW 1:30-4:30 3 units, 2d semester (Clark)

8. **Scientific Perspective.**—A series of problems involving the mathematical principles of perspective, and the application of these

principles to actual buildings and objects. [Course 8 is offered in alternate years; given in 1914-15.]

2 units, 2d semester (CLARK)

9. Science Drawing.—A course designed to assist students in scientific illustration. It includes the drawing of simple scientific subjects in pen outline, line and stipple shading, wash, and line and wash. Especial attention will be paid to the needs of individual students. Open to science students on advice.

2 units, either semester (STARKS)

10. Teachers' Course.—For intending teachers and supervisors of drawing. Consisting of lectures upon methods and aims in school curricula and in the practical work of preparing courses of study. Open to advanced students only. [Offered in alternate years; given in 1914-15.]

3 units, 2d semester (CLARK)

11. Design.—(First semester) Exercises in the principles of abstract design, decorative design, and the handicrafts generally. (Second semester) Application of the principles to house planning and interior household fittings.

MTW 1:30-4:30 3 units, both semesters (CLARK)

12. Illustrating.—Practice in application of life drawing to specific purposes. Must be preceded by course 3.

F 1:30-4:30 1 unit, both semesters (POOR)

13. Handicraft.—Exercises in textiles, leather, metal work, pottery, etc. To follow or accompany course 11.

ThF 1:30-4:30 2 units, either semester (CLARK)

MATHEMATICS

ROBERT EDGAR ALLARDICE, RUFUS LOT GREEN, †HANS FREDERICK BLICHFELDT, Professors.
FRANKLIN FOWLER WOLFF, Acting Instructor.
SYDNEY AILEEN GARDNER, Graduate Assistant.

The courses in this department have been arranged to meet the wants of two classes of students—students whose major subject is Mathematics, and students who, while taking their major in some other department, desire to include some mathematics in their course. Stu-

†Absent on leave, second semester, 1913-14.

dents in Engineering are provided for in the Department of Applied Mathematics.

For students whose major subject is Mathematics the following programme of work is recommended: In the first year, courses 3 and 4: in the second year, courses 9, and 10 or 21; in the third year, courses 11, 12, and 15; while the work during the fourth year and for graduate students may be selected from the remaining courses, and from the Department of Applied Mathematics. The advanced courses will, for the most part, be given once in two or once in three years, and it is hoped that the advanced students will thus have the opportunity of studying the more important branches of modern mathematics.

Students whose major subject is Mathematics are recommended to begin the study either of French or of German in their freshman year.

Students who desire to take one or more years of Mathematics as a part of a liberal training are recommended to begin their work in this Department with one or more of the courses 1, 2, 3, 6, and 7.

The Teacher's Recommendation.—For the High School Recommendation in Mathematics the following courses are required: 1, 2, 3, 4, 9, and 10 or 6.

1. Trigonometry.—Elementary course, with applications involving logarithmic calculation.

TTh 9:15 2 units, 1st or 2d semester (Blichfeldt, Wolff)

2. Solid Geometry.—Elementary course.

TTh 9:15 2 units, 1st or 2d semester (Wolff)

3. Algebra.—Fundamental laws, degree, symmetry, indeterminate coefficients, remainder theorem, factors, introduction to theory of equations. Presupposes entrance credit in elementary algebra.

MTWThF 8:15 5 units, 1st semester (Green)

4. Co-ordinate Geometry.—An elementary course in the analytic geometry of the conic sections. Presupposes course 3.

MTWThF 8:15 5 units, 2d semester (Green)

[Students making Mathematics their major subject should take courses 3 and 4 as the first year's work, and those who have not had Trigonometry should also take course 1.]

6. Plane Geometry.—This course includes a rapid revision of elementary geometry, together with additional theorems and references to modern theories. It is recommended to those who expect to teach mathematics, and presupposes entrance credit in plane geometry.

TTh 10:15 2 units, both semesters (Allardice)

7. General Course.—A brief and elementary survey of the principles of Algebra, Trigonometry, Co-ordinate Geometry, and Calculus. Presupposes elementary algebra and plane geometry.
MWF 10:15 3 units, both semesters (WOLFF)

8. Teachers' Course in Algebra.
MWF 9:15 3 units, 2d semester (GREEN)

9. Differential and Integral Calculus.—Lectures on the Differential and Integral Calculus, with applications to the theory of plane curves, on the lines of Williamson's treatises.
MWF 9:15 3 units, both semesters (ALLARDICE)

10. Advanced Co-ordinate Geometry.—A continuation of course 4.
TTh 9:15 2 units, both semesters (GREEN)

11. Advanced Calculus.—A continuation of course 9.
MWF 11:15 3 units, 1st semester (ALLARDICE)

12. Theory of Functions.—Elementary course.
MWF 11:15 3 units, 2d semester (ALLARDICE)

13. Non-Euclidean Geometry.—Presupposes a course in Calculus.
TTh 10:15 2 units, 1st semester (BLICHFELDT)

14. Modern Co-ordinate Geometry.—Introductory course.
3 units, 1st semester (GREEN)

15. Differential Equations.
MWF 10:15 3 units, both semesters (BLICHFELDT)

16. Definite Integrals.
2 units, 1st semester (ALLARDICE)

17. Advanced Theory of Functions.
4 units, both semesters (ALLARDICE)

18. Theory of Equations.—[Not given in 1914-15.]
3 units, both semesters (GREEN)

19. Reading Course.—In this course the students will read French and German text-books under the direction of the instructors. [Not given in 1914-15.]
2 units, both semesters (ALLARDICE, BLICHFELDT)

21. Projective Geometry.
TTh 11:15 2 units, both semesters (ALLARDICE)

22. Theory of Algebraic Numbers.
MWF 11:15 3 units, both semesters (BLICHFELDT)

25. Infinite Series.
WF 9:15 2 units, 1st semester (BLICHFELDT)

APPLIED MATHEMATICS

Leander Miller Hoskins, Professor.
Halcott Cadwalader Moreno, Sidney Dean Townley, William Albert Manning, Associate Professors.
Ernest William Ponzer, Assistant Professor.
Chester Thorne Allcutt, Harry Appleton, Harold Tolman Avery, Joel Bean Cox, [2]Jesse Ernest Hayes, William King Skolfield, Butler Etter Ward, Undergraduate Assistants.

The courses in Applied Mathematics are planned primarily to meet the needs of students in Engineering. The aim is to make these courses practical in the sense of furnishing thorough drill on fundamental principles and much practice in their application. Emphasis is laid upon accuracy and system in the solution of numerical problems. Students whose training in arithmetical work has been deficient, or who are otherwise inadequately prepared, or who lack aptitude for mathematical study, can not pursue these courses successfully.

Students majoring in any Engineering department should have entrance credit in all preparatory subjects in mathematics, including Algebra (at least one and a half units), Plane and Solid Geometry, and Plane Trigonometry. This preparation is required for admission to any of the following courses.*

Course 1 embraces the regular first-year work, and courses 2 and 3 the regular second-year work for all students in Engineering. Those deficient in the work of the first year are not admitted to second-year courses. This requirement will be strictly enforced, whether the previous work has been taken in this University or elsewhere.

1. First-year Mathematics.—This course embraces (*a*) Algebra, (*b*) Trigonometry, (*c*) Co-ordinate Geometry. The work begins with a rapid review of elementary algebra, intended to test the student's familiarity with fundamental principles and operations, those showing deficient preparation not being permitted to continue. This review is followed by more advanced work in algebra, but emphasis is laid on the thorough mastery of the ordinary rules rathen than on covering a large amount of ground. In the second part of the course much attention is paid to reviewing and enforcing the fundamental principles of plane trigonometry, and especially to the numerical solution of triangles using both natural and logarithmic functions. In co-ordinate geome-

*Courses in Solid Geometry and Trigonometry are given in the Department of Mathematics (courses 1 and 2). (See p. 152.)

try it is aimed to familiarize the student with the method of coordinates, so that he can apply it independently to simple problems, rather than to devote much attention to a detailed study of the properties of the conic sections or other curves. The course is open to students having entrance credit in algebra (at least 1½ units), plane and solid geometry, and plane trigonometry.

MTWThF 8:15, 10:15 5 units, both semesters
(Moreno, Manning, Ponzer)

2. Calculus.—An elementary course on Differential and Integral Calculus, in which emphasis is laid on fundamental principles and simple applications. 3 units, both semesters

MWF 9:15 (Moreno, Manning, Ponzer)

3. Theoretical Mechanics.—An elementary course, covering the fundamental principles of Statics, Kinematics, and Kinetics, restricted mainly to coplanar forces and to plane motion of particles and of rigid bodies. An elementary treatment of Graphic Statics is included. The course is designed as preparation for the courses in Applied Mechanics taken by students of Engineering, but is open to all whose preparation includes the equivalent of course 1. Calculus must either precede this course or be taken at the same time. 5 units, both semesters

MTWThF 10:15 (Hoskins, Manning, Townley)

4. Advanced Calculus.—This course is designed to meet the needs of students who are preparing to pursue the more mathematical parts of engineering theory.

MW 11:15 2 units, 1st semester (Moreno)

8. Engineering Mathematics.—A supplementary course designed to meet the needs of students of Electrical Engineering.

TTh 9:15 2 units, 1st semester (Moreno)

9. Graduate Courses.—Advanced courses in Theoretical Mechanics, Hydromechanics, Theory of Heat, Theory of the Potential Function, Theory of Elasticity, or other subjects, may be arranged for students having the requisite mathematical training.

Astronomy and Geodesy

The course in Descriptive Astronomy is designed especially to meet the needs of students who have time for only a general knowledge of the subject. Course 11 is dsigned especially for students of Engineering and Geology who desire a working knowledge of practical astronomy. The other courses are intended for students of Applied Mathematics or Civil Engineering who wish to prepare themselves for geodetic work.

10. **Descriptive Astronomy.**—This course consists of a general survey of the various branches of astronomy, including a study of the celestial sphere, the bodies of the solar system, comets, the fixed stars, and other heavenly bodies. The treatment is non-mathematical.

MWF 11:15 3 units, 1st semester (Townley)

11. **Practical Astronomy.**—The theory and practice of the determination of latitude, azimuth, time, and longitude, with sextant and engineer's transit. Intended especially to meet the requirements of students of civil engineering. Course 1, differential calculus, and surveying are prerequisites.

MWF 11:15 3 units, 2d semester (Townley)

12. **Advanced Practical Astronomy.**—A continuation of course 11. Precise methods of determining time, latitude, etc., by means of the universal instrument. Hours and credits to be adjusted.

(Townley)

13. **Adjustment of Observations.**—Theory of the method of least squares, with applications. Credit in course 2 or its equivalent is a prerequisite. Given in alternate years.

TTh 11:15 2 units, 2d semester (Townley)

14. **Geodesy.**—Study of the form and dimensions of the earth and the practical methods of geodetic work. Courses 11 and 13 are prerequisites. Given in alternate years. [Not given in 1913-14.]

2 units, 2d semester (Townley)

PHYSICS

Fernando Sanford, Professor.

†Frederick John Rogers, Associate Professor.

Elmer Reginald Drew, Joseph Grant Brown, Assistant Professors.

Perley Ason Ross, Harry Carleton Burbridge, Instructors.

Herbert Rovell Benham, Philo Fay Hammond, Bertha Blanchard Howell, Robert Clay McLean, Alta Echo Wiseman, Graduate Assistants.

[Courses 1, 2, 3, 4, and 5 constitute a course in General Physics, and are intended to precede the advanced courses.]

1. **Dynamics.**—Including hydrostatics and pneumatics. Open only to students who have had algebra and plane geometry. Required as

†Absent on leave, 1913-14.

a preparation for each of the courses following (except 6 and 7). One lecture and two laboratory periods per week.

Lec. W 1:30; Lab. TTh 9:15-12:15 (1st sem.), MWF 1:30-4:30
3 units, either semester (Ross, Burbridge)

2. Electricity and Magnetism.—One lecture and two or three laboratory periods per week. Prerequisite: course 1, or its equivalent.

Lec. F 1:30; Lab. WThF 1:30-4:30
3 or 4 units, 1st semester (Drew)

3. Heat.—One lecture and two laboratory periods per week. Prerequisite: course 1.

Lec. T 10:15; Lab. MT 1:30-4:30 3 units, 2d semester (Ross)

4. Sound.—Including wave-motion. Three laboratory periods per week. Prerequisites: course 1, and trigonometry.

Lab. MTW 1:30-4:30 3 units, 1st semester (Brown)

5. Elementary Optics.—Three laboratory periods per week. Prerequisites: course 1, and trigonometry.

Lab. WThF 1:30-4:30 3 units, 2d semester (Brown)

6. General Physics.—A course intended primarily for students in Engineering but open to others who have had equivalent preparation. Three experimental lectures and recitations and one laboratory period per week. Prerequisite: entrance Physics, and course 3 in Applied Mathematics, or may be taken concurrently with the latter.

a. Heat, Light, and Sound. 4 units, 1st semester (Brown)
Lec. MWF 11:15; Lab. W or Th or F 1:30-4:30

b. Electricity and Magnetism. 4 units, 2d semester (Brown)
Lec. MWF 11:15; Lab. W or Th or F 1:30-4:30

7. General Physics.—A non-mathematical course intended primarily for students in Biological Science and students preparing for the study of Medicine, but open to others. Two lectures and two laboratory periods per week throughout the year.

Lec. MW 10:15; Lab. MT 1:30-4:30
4 units, both semesters (Drew, Ross)

8. Mechanical Measurements.—A course in exact measurements of mass, length, time, and gravity, using balance, dividing engine, cathetometer, chronograph, etc. Two laboratory periods per week. Prerequisite, course 1.

Lab. MT 1:30-4:30 2 units, 2d semester (Brown)

9. Electrical Measurements.—Open to students who have taken course 2 or course 6*b*.

Lec. Th 8:15; Lab. MWF 10:15-12:15; MTW 1:30-4:30
2 or 4 units, 1st semester (Drew)

9a. Photometry and Illumination.—Open to students who have completed course 9.

By arrangement 1 unit, 2d semester (DREW)

10. Advanced Optics.—Two laboratory periods per week. Prerequisite, course 5.

Lab. MT 1:30-4:30 2 units, 2d semester (SANFORD)

11. Advanced Physics.—Lectures. Prerequisites, courses 1, 2, 3, 4, and 5, or their equivalent.

MTWThF 11:15 5 units, both semesters (SANFORD)

12. Analytic Mechanics.—Lectures. Prerequisites, course 1 and the Differential and Integral Calculus.

By arrangement 4 units, 2d semester (DREW)

13. Teachers' Course in Elementary Physics.—Prerequisites: courses 1, 2, 3, 4, and 5, or their equivalent.

W 10:15 1 unit, both semesters (SANFORD)

14. Advanced Heat.—Lectures on selected topics, including the elements of Kinetic Theory and Thermodynamics. Prerequisites: courses 1 and 3, and calculus.

By arrangement 3 units, 2d semester (DREW)

15. Vibratory Motion.—Recitations and lectures illustrated by occasional lecture experiments and a few carefully executed laboratory experiments. A knowledge of differential and integral calculus is required. [Not given in 1913-14.]

3 units, 1st semester (ROGERS)

16. The Literature of Physics.—Open to students who have the preparation required for Physics 11. A general review of the literature of Physics, especially journal literature.

MF 10:15 2 units, either semester (SANFORD)

17. History of Physics.—Lectures and readings on the history of physical science with special reference to the development of theories. Prerequisites: course 1, 2, 3, 4, and 5. [Not given in 1913-14.]

2 units, 2d semester (ROGERS)

18. Advanced Electricity.—Recitations and lectures illustrated by occasional lecture experiments and a few carefully executed laboratory experiments. Prerequisites: courses 2 or 6*b*, 9, and calculus. [Not given in 1913-14.]

4 units, 1st semester (ROGERS)

19. Investigation of Original Problems in the Laboratory.—Hours to be determined in each case. By arrangement (SANFORD)

For graduation in the department the minimum requirement is 40 units of Physics and Chemistry, of which at least 30 units must be Physics. All elementary courses except 6 and 7 are suitable for Physics majors.

The Teacher's Recommendation.—The minimum requirement is courses 1, 2, 3, 4, 5, or an equivalent, and course 13.

Laboratory Fees.—Courses 1, 2, 3, 4, 5, 7, and 8, $4 each per semester; course 6*a* and 6*b*, $3 each, per semester; course 9, $5 per semester; course 19, $2 per unit per semester.

CHEMISTRY

John Maxson Stillman, Lionel Remond Lenox, Edward Curtis Franklin, Stewart Woodford Young, Robert Eckles Swain, Professors.

John Pearce Mitchell, Assistant Professor.

William Henry Sloan, George Shambaugh Bohart, Instructors.

Alice Ruth Berger, Acting Instructor.

[2]Paul Gerhard Albrecht, [1]Samuel Clifford Dickinson, [1]Edwin Reginald Harding, [2]Elton Marion Hogg, James Walter Jones, [1]Hugh Harold Mosher, Robert Lindley Murray, Francis Sitwell Pratt, William John Van Sicklen, Graduate Assistants.

John McKee Dodd, Howard McKee Elsey, Fred Bradshaw Watkins, [2]George J. Ziser, Undergraduate Assistants.

Elmer R. Ewell, Curator.

Benjamin Thomas Scott, Storekeeper.

I. Lecture Courses.

1. General Inorganic Chemistry.—Comprising a systematic treatment of elementary principles and of the properties of the more important elements and their compounds. Open to all students. Those not having entrance credit in Chemistry will register in a three-hour section for the first semester and in laboratory course *a*1.

(I) MWF 8:15; (II) TTh 11:15

2 or 3 units, 1st semester; 2 units, 2d semester (Mitchell)

2. Principles of General and Inorganic Chemistry.—Discussion of the elements of chemical theories and of important generalizations in the field of inorganic chemistry. Open to all students who have completed courses 1 and *a*11.

MWF 11:15 3 units, both semesters (Stillman)

3. Organic Chemistry.—Lectures and reviews on the chemistry of carbon compounds. Open to students who have completed courses 1 and *a*. TTh 10:15 2 units, both semesters (FRANKLIN)

[A condensed course in organic chemistry is offered for students in medicine. See Department of Medicine, Division of Chemistry, course 1.]

4. Industrial Chemistry.—Lectures on fuels, water, acid and alkali manufacturing, explosives, sugar-making and refining, petroleum. Open to students who have completed courses 2 and 3; or may be taken concurrently with course 3.

MF 9:15 2 units, both semesters (STILLMAN)

5. History of Chemistry.—Open to students who have completed courses 2 and 3. [Not given in 1913-14.]

2 units, 1st semester, in alternate years (STILLMAN)

6. Qualitative Analysis.—In connection with laboratory course *b*.

T 1:30 1 unit, either semester (LENOX)

7. Advanced Organic Chemistry.—Advanced topics in organic chemistry, including stereochemistry. Open to students who have completed courses 2 and 3. [Given in 1913-14.]

2 units, both semesters, in alternate years (FRANKLIN)

8. General Physical Chemistry.—Lectures covering as far as possible the whole field of physical chemistry. Open to students who have completed courses 2 and *d* in Chemistry, courses 3 and 9 in Mathematics, and course 1 in Physics (course 2 being also recommended.)

MWF 8:15 3 units, both semesters (YOUNG)

9. Physical-Chemical Measurements.—An informal course of lectures given as needed in connection with course *f*.

By arrangement No credit (YOUNG)

10. Applied Physical Chemistry.—For students in Analytical Chemistry and Metallurgy.

MW 9:15 2 units, 2d semester (YOUNG)

11. Physiological Chemistry.—Lectures on the chemical composition and action of the tissues and secretions of the animal body, the digestion of foods, and the elimination of waste products. Open to students who have completed course 3.

MWF 11:15 3 units, 1st semester (SWAIN)

12. Seminary in Chemistry.—Discussion of assigned topics in theoretical and general chemistry. Open to graduate students, and to advanced undergraduates in Chemistry, with the approval of the Faculty in Chemistry. W 4 1 unit, both semesters

II. Laboratory Courses

a. General Inorganic Chemistry.—In connection with course 1.

*a*1. Illustrating fundamental laws and principles of elementary chemistry, for students who have not received entrance credit in Chemistry.

MT or ThF 1:30-4:30 2 units, 1st semester (Mitchell, Bohart)

*a*11. Inorganic preparations and general chemistry. For students who either have completed *a*1 or have received entrance credit in Chemistry.

MT or ThF 1:30-4:30 2 units, either semester (Mitchell, Bohart)

b. Qualitative Analysis.—Open to students who have completed courses 1 and *a*11. 3 afternoons, either semester

By arrangement (Lenox, Berger)

c. Preparation of Typical Carbon Compounds.—Open in connection with course 3 to students who have completed course *b*.

By arrangement 3 afternoons, either semester (Franklin)

d. Quantitative Analysis.—Training in manipulation in gravimetric and volumetric methods. Work begins either semester. Students in other departments than Chemistry may register for three afternoons if they cannot arrange for four, as is recommended. Open to students who have completed courses 6 and *b*.

By arrangement 4 afternoons, either semester (Sloan)

e. Mineral Analysis.—Systematic analysis of representative minerals. Open to students who have completed course *d*, and required of students whose major subject is Chemistry, unless *f* or *g* be elected instead. 4 afternoons, either semester

By arrangement (Stillman, Lenox, Sloan)

f. Physical-Chemical Measurements.—Exercises in the practice of physical-chemical laboratory methods. Open to students who have completed or are taking course 8, and who have completed course *d*.

By arrangement 3 or 5 units, either semester (Young)

g. Physiological Chemistry.—A laboratory course including a preliminary study of the proteins, carbohydrates, and fats, and the action of the various digestive fluids upon them, followed by a chemical examination of the bile, blood, milk, the chief tissues of the animal body, and the excretions. In connection with course 11.

By arrangement 3 afternoons, 1st semester (Swain)

h. Assaying.—Open to students who have completed course *d*.

Lab. by arrangement; Lec. Th 1:30

3 afternoons, either semester (Lenox)

i. Physical-Chemical Laboratory.—A course recommended in connection with Chemistry 10.

By arrangement (YOUNG)

k. Analytical Chemistry.—A condensed course intended exclusively for students preparing for medicine. Not open to Chemistry majors, and not accepted in place of the regular courses in qualitative and quantitative analysis as prerequisites for advanced laboratory courses, with the exception of physiological chemistry for medical students.

[Students preparing for Medicine who have, however, already completed the regular course in Qualitative Analysis (6 and *b*), may register for *kb* for two hours credit.]

In 1913-14 the course *kb* must be begun by March 10th. The class will be expected to finish *ka* by that date.

ka. Qualitative Analysis.—Brief course. Credit deferred until *kb* is also completed. 2 units (LENOX)

kb. Quantitative Analysis.—Brief course. 2 units (SLOAN)

Course *k* (*a* and *b*) must be registered at the same time—for four units total credit. 4 units, 2d semester

x. Advanced and Special Courses in laboratory work and research work are open to students who have completed the necessary prerequisites, by arrangement with professors of the Department, and with reference to the particular aims and ambitions of the students. Such advanced or special subjects are, for example: special methods in mineral analysis, iron and steel analysis; special methods in assaying; water analysis; food analysis; urine analysis; elementary organic analysis; special organic preparations; analysis of sugar, toxicology, etc.

Qualified students may also pursue investigations of problems in inorganic, organic, physical, analytical, or physiological chemistry under the direction of any professor with whom arrangement is made.

For all such advanced, special, or research work, students will register and enroll under *x*, giving name of professor under whom the work is to be carried on, and for such number of units of credit as may be agreed upon.

Candidates for the degree of Bachelor of Arts in Chemistry may select any one of the four following curricula (A, B, C, D), the requirements of the Department being as follows:

A. General Chemistry

First Year:—Chemistry 1, *a;* Physics 1; Mathematics 3; German 1.
Second Year:—Chemistry 2, 6, *b;* Mathematics 9; German *2a.*
Third and Fourth Years:—Chemistry *d,* 3, *c,* 8, *f.*

Recommended for all who are studying the science of chemistry for its own sake or for the profession of teaching.

B. Analytical Chemistry

First Year:—Chemistry 1, *a;* Physics 1; German 1.
Second Year:—Chemistry 2, 6, *b;* Geology 1, 2; German *2a.*
Third and Fourth Years:—Chemistry *d, e, c, h,* 3, 10; Geology 5.

Particularly adapted to students who are looking forward to the career of analytical chemist and assayer.

C. Medical or Sanitary Chemistry

First Year:—Chemistry 1, *a;* Physiology 1; German 1.
Second Year:—Chemistry 2, 6, *b;* Physics 7; German *2a.*
Third and Fourth Years:—Chemistry 3, *c, d,* 11, *g.*

Particularly adapted to students who are looking forward to medical education or to sanitary chemistry.

D. Chemical Engineering

This curriculum comprises four years of the necessary five years' work leading to the advanced degree of *Engineer* in Chemical Engineering. Candidates in this course receive the degree of A. B. in Chemistry upon completion of the following requirements:

First Year:—Chemistry 1, *a;* Applied Mathematics 1; German 1.
Second Year:—Chemistry 2, 6, *b, d;* Applied Mathematics 2, 3.
Third Year:—Chemistry 3, *c;* Engineering 1*a,* 1*b,* 2; Physics 1, 2 (or 6*a* and 6*b*); German *2a.*
Fourth Year:—Chemistry 4, *e* (or *h*); Mechanical Engineering 11, 13; Metallurgy 9; Engineering 3*a.*

Intended particularly for students who are working toward the degree of Chemical Engineer and who desire to fit themselves for positions of responsibility in connection with the administration of industries involving chemical knowledge and skill.

Advanced Degrees

Applicants for the degree of Master of Arts in Chemistry will be expected to complete, in addition to the requirements for the bachelor's degree, the equivalent of thirty units' work in the University—of which

approximately two-thirds must be in the Department. This work will include a thesis based on laboratory work, and Chemistry 8 and *f*, if not included in the undergraduate work.

Candidates for the advanced degree of ENGINEER in Chemical Engineering will be required to complete, in addition to the requirements for the A. B. degree specified under course D: Mechanical Engineering 14, 31, 24, 36, Chemistry 8, and a thesis based on laboratory work. Electrical Engineering 1 is advised, if possible, though not required. It is estimated that these requirements may be completed in one year after the completion of the requirements under Course D.

Candidates for the degree of DOCTOR OF PHILOSOPHY in Chemistry, after the completion of the equivalent of the requirements for Master of Arts or Engineer, will follow such courses as are approved by the Department faculty, subject to general University regulations.

The TEACHER'S RECOMMENDATION.—The minimum requirement for the high school teacher's recommendation in Chemistry is courses 1 and *a* (Elementary and General Inorganic, lectures and laboratory), the first half of course 2 (Principles of Chemistry), and either the second half of course 2, or courses 6 and *b* (Qualitative Analysis, lectures and laboratory).

LABORATORY FEES.—A charge of $25 per semester will be made to students in each laboratory course of not more than four units registration. Of this charge $5 per semester in assaying, and $10 per semester in the other courses, is returnable, less bills for breakage and loss of apparatus.

BOTANY

DOUGLAS HOUGHTON CAMPBELL, GEORGE JAMES PEIRCE, Professors.
LEROY ABRAMS, Associate Professor.
LEONAS LANCELOT BURLINGAME, Assistant Professor.
JAMES IRA WILLIAM MCMURPHY, Instructor.
FRANK JASON SMILEY, Assistant.
GEORGIA HELEN BENTLEY, ROXANA JUDKINS STINCHFIELD, [2]OTHO JAMES GILLILAND, Undergraduate Assistants.

The Department of Botany aims to provide instruction for two classes of students: (*a*) Students who wish to know something of the structures, life processes, and relationships of plants and to gain some familiarity with the methods of scientific work; and (*b*) Professional students who look forward to investigation, teaching, or the technical

applications of Botany in Plant Breeding, Forestry, Agriculture, Horticulture, Plant Pathology, etc. Course 1, which presents the elements of the more important divisions of botanical study, is designed to meet the needs of both groups of students and must precede all other courses in the department, except in the case of students who have received entrance credit for its equivalent. Courses 2 to 12 are open to students who have had course 1 or its equivalent. It is the aim of these courses to give the student by means of lectures and references to the literature a general and summary account of the present state of knowledge, and in the laboratory and the field to afford him an opportunity for a personal acquaintance with plants themselves. Students who have had two years' work may, after consultation, be registered in courses 13, 14, or 15. The resources of the department afford exceptional opportunity for investigation in a number of fields. Properly qualified students desiring to undertake such investigation should register in courses 16, 17, or 18, after consultation with the instructor concerned.

Major students in the department will be expected to complete 34 units in the department, and Zoology 1. The thirty-four units should include courses 1, 2 or 4, 3, 6, and 7 or 8. It is strongly recommended that courses 2 and 4 be taken in the second year.

The Teacher's Recommendation for High School Botany is based on a minimum of courses 1, 2 or 4, 6, and 7 or 8.

Students looking to Forestry or Agriculture as a profession should include courses 3, 3*a*, 7, 8, and 11 as part of their preparation, and the following subjects in other departments: elementary physics, chemistry, geology and physiography, zoology, entomology, economics, and applied mathematics. They should also be able to read French and German.

Fees are charged in the various courses approximately sufficient to cover the cost of the perishable materials and syllabus used, as follows: Course 1, $2.50; courses 2, 3, 3*a*, 4, 5, 6, 9, 10, 11, 13, 14, $3.00 each; course 12, $1.00; courses 7 and 8, $5.00 each.

1. **Elementary Botany.**—Study of representatives of the principal groups of plants, with lectures upon their morphology and classification. (Campbell's University Text-Book of Botany.) Short botanical excursions will be made on five Saturdays in each semester. Attendance on these is not required, but is desirable, and will yield an additional half credit per semester.

Lec. W 1:30; Lab. MT or ThF 1:30 3 or 3½ units, both semesters
(Campbell, Burlingame, Peirce, Abrams, Smiley)

2. Algae.—Lectures, reading, and laboratory work upon the special morphology and classification of the Algae.

Lec. W 2:30; Lab. MTThF 1:30-4:30 5 units, 1st semester (CAMPBELL)

3. Fungi.—The laboratory work (three hours) will be devoted to morphology, development, and culture methods; the lectures to systematic relationship, with an account of economically important forms.

Lec. W 8:15; Lab. TTh 8:15-11:15 3 units, 1st semester (McMURPHY)

3a. Plant Pathology.—Lectures, laboratory, and field work on the fungous and other plant diseases. 3 units, 2d semester

Lec. W 8:15; Lab. TTh 8:15-11:15 (McMURPHY)

4. Archegoniatae.—Special morphology and classification of the Archegoniatae. Continuation of course 2. 5 units, 2d semester

Lec. W 2:30; Lab. MTThF 1:30-4:30 (CAMPBELL)

5. Gymnosperms.—Studies in the morphology, classification, and distribution of the group. Particular attention will be paid to the Conifers. 3 units, 1st semester

Lec. W 9:15; Lab. MF 9:15-12:15 (BURLINGAME)

6. Angiosperms.—Lectures and laboratory work on the morphology and classification of the Angiosperms. Open to students who have had course 1. 3 units, 2d semester

Lec. Th 1:30; Lab. ThF 1:30-4:30 (ABRAMS)

7. Physiology.—Laboratory work, lectures, and reading on Nutrition. (An elementary knowledge of physics and chemistry is a desirable preliminary to this course.) 3 units, 1st semester

Lec. W 2:30; Lab. MT 1:30-4:30 (PEIRCE)

8. Physiology.—Laboratory work, lectures, and reading on Respiration, Growth, Irritability, and Reproduction. (An elementary knowledge of physics and chemistry is a desirable preliminary to this course.) 3 units, 2d semester

Lec. W 2:30; Lab. MT 1:30-4:30 (PEIRCE)

9. Botanical Technique.—Lectures and laboratory work. The methods of killing, fixing, preserving, embedding, sectioning, staining, etc., will be taught in connection with the preparation of material for study in the course. 3 units, 2d semester

Lec. W 2:30; Lab. ThF 1:30-4:30 (BURLINGAME)

10. Plant Anatomy.—Lectures and laboratory work on the anatomy of vascular plants: special reference to the adaptation of struc-

ture to function, and to the evidence of evolution afforded by vascular anatomy. [Not given in 1913-14.]

3 units, 2d semester (BURLINGAME)

11. Geographical Distribution and Forest Botany.—Lectures, laboratory, and field work on the trees and shrubs, and the principles of geographical distribution which they illustrate. Open to students who have had course 1. 3 units, 1st semester

Lec. Th 1:30; Lab. ThF 1:30-4:30 (CAMPBELL, ABRAMS)

12. Field Botany.—Field work on the classification and distribution of the local trees and shrubs. Open to students who have had course 1.

Alternating Saturdays 1 unit, both semesters (ABRAMS)

13. Cytology.—Lectures and laboratory work on the plant cell; the bearings of cytology on evolution, plant breeding, etc. (Open only to those who have had courses 1 and 9. Courses 2 and 3 are desirable preliminaries. [Not given in 1913-14.]

3 units, 1st semester (BURLINGAME)

14. Archegoniatae.—Advanced work in special groups.

By arrangement 1st and 2d semesters (CAMPBELL)

15. Taxonomy.—A critical study of some family or genus, with special reference to nomenclature and the methods of investigation. The laboratory and herbarium work will be supplemented by field work.

By arrangement, either semester (ABRAMS)

16. Research in Morphology.—

(CAMPBELL, BURLINGAME)

17. Research in Physiology.—

(PEIRCE)

18. Research in Taxonomy and Geographical Distribution.—Western America with its great diversity of climate and topography affords innumerable problems for investigation in taxonomy and plant distribution. The University collections, officially known as the Dudley Herbarium, are rich in material from this region and offer favorable facilities for the pursuit of studies along these lines. (ABRAMS)

PHYSIOLOGY AND HISTOLOGY

Oliver Peebles Jenkins, Frank Mace McFarland, Professors.
Clara S. Stoltenberg, Associate Professor.
James Rollin Slonaker, Frank Walter Weymouth, Assistant Professors.
†Willard E. Kay, Jr., Acting Instructor.
[2]Roscal Leroy Draper, [1]Leonard R. Jenkins, Graduate Assistants
Forrest Edwin Boyd, Thomas Adam Card, [2]Marion Reginald King, [1]John Edwin Paulson, [2]Lloyd Robinson Reynolds, Undergraduate Assistants.

Undergraduate Courses

1. General Anatomy and Physiology.—This course is designed to give a general view of the laws of the structure and the activity of organisms. The work will give occasion to discuss many questions of General Biology. It consists of: First, the study of the cell and its activities as shown in the unicellular organisms, in reproductive cells, and in individual cells of many tissues; second, the study of the laws and course of development resulting in higher differentiations in structure, and specializations in function, exhibited in a selected series of organisms, both animals and plants, of increasing complexity; third, the comparative study of the physiological processes of forms placed under widely different conditions. The latter part of the course is occupied with an introduction to the embryology, anatomy, and physiology of vertebrates. (One lecture and five laboratory hours per week.)

Lec. M 1:30; Lab. MT 1:30-4:30 3 units, both semesters
(Jenkins, Weymouth, Kay)

2. Physiology of Muscle and Digestion.—To be preceded by courses 1 and 9 by majors in the Department. An experimental course covering the ground represented in Foster's Physiology, or Howell's Text-book on the same subjects. (Two lectures and five laboratory hours per week.) 4 units, 1st semester

Lec. TTh 8:15; Lab. MT or ThF 1:30-4
(Jenkins, Slonaker, Kay)

3. Physiology of Blood and Circulation, Respiration, Elimination of Wastes, Metabolism, and Nutrition.—Planned to follow course 2. An experimental course, with Foster's Physiology and Howell's

†Absent on leave, 1913-14.

Text-book as texts. (Two lectures and five laboratory hours per week.)

Lec. TTh 8:15; Lab. MT or ThF 1:30-4 4 units, 2d semester (JENKINS, SLONAKER)

4. Anatomy and Histology of the Sense Organs.—Dissections, and study of prepared slides. Texts: Quain-Schäfer's Microscopic Anatomy, Quain's Sense Organs. One lecture and five laboratory hours per week. Prerequisites for courses 4 and 5 are courses 1 and 9, for majors in the Department.

Lec. W 8:15; Lab. MW 8:15-12:15, or MT 1:30-4:30
3 units, either semester (STOLTENBERG)

5. The Nervous System.—A study of the structure of the central nervous system of man by means of dissections and prepared slides, supplemented by dissections of central nervous system of other mammals. Text required: Villiger's Brain and Spinal Cord; supplementary texts: Barker's Nervous System, Edinger's Nervöse Centralorgane, Johnston's Nervous System of Vertebrates, Quain's Neurology, Van Gehuchten's Système Nerveux. (One lecture and six laboratory hours per week.)

Lec. W 8:15; Lab. MW 8:15-12:15, or MT 1:30-4:30
3 units, either semester (STOLTENBERG)

6. Physiology of the Nervous System and Sense Organs.—An experimental course in these subjects, requiring courses 4 and 5 as preliminary. (One lecture and five laboratory hours per week.)

Lec. M 10:15; Lab. ThF 1:30-4 3 units, 2d semester (JENKINS, WEYMOUTH)

7. The Vertebrate Eye.—A comparative study of the structure of the eyes of vertebrates, giving special attention to the retina. Open to advanced students. (Lecture and laboratory work, six hours per week.) By arrangement 2 units, 2d semester (SLONAKER)

8. Special Courses in Physiology.—Advanced courses open only to those who have had courses 1, 2, 3, 4, 5, and 6. They are arranged for the advanced study of selected subjects in physiology, or as a drill in the methods of research. The work will be planned for the individual student, the time varying with the exigencies of the case.

By arrangement 2 to 5 units, both semesters (JENKINS)

9. Histology.—The study of the structure of the cell and its modes of reproduction, the epithelial, muscular, nervous, and connective tissues, and the outline of their development in a comparative way occupy the first semester. During the second semester the structure of the

blood and lymph, and the microscopic anatomy of the organs are dealt with. Text required: Quain-Schäfer's Microscopic Anatomy. Elementary histological technique is taught during the course. In the second semester an opportunity is offered for a limited number of students to register for an extra unit, which is devoted to more extended histological technique. Prerequisite for course 9, course 1, or its equivalent. (One lecture and five laboratory hours per week.)

Lec. Th 9:15; Lab. TTh 9:15-12:15 3 units, both semesters (McFarland)

10. Histogenesis.—A course in advanced Histology for students who have completed courses 1 and 9, and in addition the first semester of Vertebrate Embryology (Zoology 11). It comprises the comparative study of the histogenesis of the fundamental vertebrate tissues and organs. (One lecture per week, minimum laboratory work six hours per week.)

Lab. MTW 1:30-4:30 3 units, 1st semester (McFarland)

11. Neurocytology.—A comparative study of the minute structure of the nerve cell and nerve fibre, the neurone theory, and the question of functional alterations of structure during normal activity and artificial stimulation. (One lecture and at least six laboratory hours per week.) Open to advanced students. [Not given in 1913-14.]

3 to 5 units, 2d semester, in alternate years (McFarland)

12. Cellular Biology.—A course in Cytology dealing with the structure and functions of the cell, with special reference to the reproductive processes in unicellular and multicelluar organisms, and the theories connected therewith. Open to advanced students. (Two lectures per week, with demonstrations and laboratory work.)

MTW 1:30-4:30 3 to 5 units, 2d semester, in alternate years (McFarland)

13. Special Courses in Histology.—Advanced courses in Histology, Cytology, and Microscopic Anatomy will be arranged for individual students, in accordance with their individual needs. Open only to those who have had courses 1, 4, and 9.

By arrangement 2 to 5 units, both semesters (McFarland)

14. Journal Club.—Students in the advanced classes will be expected to meet once a week to discuss current literature in Physiology and Histology.

By arrangement 1 unit, both semesters (Department Faculty)

15. Research in Physiology or Histology.—By arrangement (Jenkins, McFarland, Slonaker, Stoltenberg, Weymouth)

Candidates for the Bachelor's degree who select Physiology and Histology as a major will be expected to take courses 1, 2, 3, 4, 5, 6, 9, and 14, and at least five units to be made up from the other courses offered in the Departments of Physiology, Anatomy, or Bacteriology; and in addition courses 1 and *a* in Chemistry, one year in Physics (see course 7), and the first semester in Embryology (course 11 in Zoology). Candidates for the degree of M. D. will also include Organic Chemistry and courses in German or French sufficient to give a reading knowledge of the language.

Laboratory Unit of Credit.—In those courses in which definite laboratory time is not fixed, three hours of laboratory work per week through one semester are taken as the equivalnet of one unit of credit.

The Teacher's Recommendation.—Students who wish the Department recommendation for High School teaching in Physiology are expected to complete courses 1, 2, 3, and 9.

Laboratory Fees.—$5 per semester for each laboratory course.

Graduate Courses

The graduate work of the Department is included in the courses 7, 8, 10, 11, 12, 13, 14, and 15. Undergraduate students may elect such of these courses as they are prepared to take, but credit recorded in undergraduate standing will not count toward a higher degree. The details of the work of a graduate student will be planned for each individual, and will naturally depend on the aim sought by him and upon his previous training. Candidates for the higher degrees will be expected to include in their work attendance on the Journal Club and Seminary, the selection of certain of the courses given above, and the accomplishment of some research. When it is desired to select a minor subject, the choice of such minor will be guided by the needs of the candidate. The work leading to these degrees is of such a nature as to require a reading knowledge of German and French for its accomplishment.

Preparation for the Study of Medicine

Students intending to enter on the study of Medicine are advised to take Physiology and Histology as a major subject, with Chemistry, Physics, and Anatomy among the collateral subjects. Such a curriculum gives that foundation both in scientific knowledge and in skill in experimental Physiology, and in Histological and Anatomical technique, which will make it possible to accomplish the medical course of the best medical schools with the greatest advantage. The courses required

for graduation in the Department of Physiology and Histology with the degree of A. B. include the premedical requirements and the work of the first year of the Medical Department of this University. For details of requirements for students intending to register in the Department of Medicine see the announcement of that Department.

ANATOMY

Arthur William Meyer, Professor.
Edgar Davidson Congdon, Assistant Professor.
Ernest Risling, Technical Assistant.

Human Anatomy

1. **Osteology.**—Students will be expected to familiarize themselves thoroughly on their own initiative with the surface anatomy of the bones of the skeleton. The laboratory work will be supplemented by recitations and lectures dealing with the internal architecture, the development, growth, and regeneration of typical bones, their nutrition and innervation, the mechanics of the skeleton as a whole, and the changes it undergoes from birth to old age. (Meyer, Congdon)

Lec. S 8:15; Lab. W 1:30-4:30 2 to 3 units, 1st semester

2-3-4. Dissection of (2) the Head, Neck, and Thorax; (3) the Upper Extremity; (4) the Abdomen and Lower Extremity.—These courses are given simultaneously throughout the year and can be begun at any time. No one will be assigned to less than one of the above parts nor will credit be given for less, save by special arrangement.

Lab. W 1:30-4:30; ThS 8:15-12:15; F 8:15-11:15
2 to 5 or more units (Meyer, Congdon)

Optional and Advanced Courses

5. **Topographical Anatomy.**—The work consists of laboratory study of frozen sections of the cadaver made in various planes, of dissected and specially injected preparations, and of models. It is suggested that students who can afford the time supplement courses 2, 3, and 4 by the respective portions of course 7 immediately on completing the dissection of a part. Open to students who have completed courses 1, 2, 3, and 4. Third semester, by arrangement.

1 to 5 units (Meyer)

6. **Human Embryology.**—This course will be offered as soon as adequate provision can be made. Course 11 in the Department of Zoology is a prerequisite. Elective.

7. Conferences on Assigned Topics.—One hour a week per group will be devoted to a consideration of various anatomical problems and obscure relations by those who are dissecting or have dissected a given part. Special emphasis is placed on practical relations. Second semester. Optional. 1 to 3 units (MEYER)

The facilities of the laboratory are always at the disposal of properly qualified students or physicians who desire to undertake the investigation of some problem in anatomy—gross or microscopic, or in embryology and neurology. Thesis work must be arranged for individually.

REQUIREMENTS FOR ADVANCED DEGREES

In addition to the requirements published in the University Register and the Announcement of the Department of Medicine, students desiring to be admitted to candidacy for the degree of Master of Arts in Anatomy must have satisfactorily completed one year's work in histology and microscopic anatomy, at least one semester of embryology, and possess a knowledge of laboratory technique adequate for the investigation to be undertaken. For admission to candidacy for the degree of Doctor of Philosophy a reading knowledge of both French and German is further required.

DEPOSIT FEES.—A deposit of $10, to cover damage to or loss of bones, is required of all students in Anatomy. This sum, less charges for damage or loss, is returnable at the close of the academic year. Students of Anatomy who are not registered medical students are charged a fee of $15 for courses 2, 3, and 4, and $5 for course 1.

Embryology.—Development of the chick through the first three days of incubation. [Course 11 in the Department of Zoology.]
2 units, 1st semester (PRICE)

BACTERIOLOGY AND IMMUNITY

WILFRED HAMILTON MANWARING, Professor.
HARRY JOHNSON SEARS, Instructor.
MARCUS CLAUDE TERRY, Assistant (Protozoology).
RUSSELL VAN ARSDALE LEE, [1]ARTHUR RICHARD MEINHARD, Undergraduate Assistants.
[2]HARRY CARSON COE, WILLIAM HOMER MOORE, [1]CHARLES RICHTER, Janitorial Assistants.

1. General Bacteriology.—An introductory course in bacteriology, designed primarily for students of general biology, physiology, in-

dustrial chemistry, and domestic science. Medical students wishing to begin bacteriological work earlier than the third (medical) semester, may take this course, following it by course 2. Open to third-year students who have completed 6 units work in biological science and Chemistry 1*a*. 5 units, 2d semester

Lec. Lab. MWF 9:15-12:15 (SEARS, TERRY, MANWARING)

2. Medical Bacteriology.—A study of the pathogenic bacteria of importance in human medicine. Courses 1 and 2 together fill the medical requirement. Prerequisite: Physiology 2, 3, 9, Chemistry 3, and course 1. Chemistry 11 and *g* is a desirable preliminary.

3 units, 1st semester

Lec. Lab. MWF 8:15-10:15 (MANWARING, SEARS, TERRY)

2a. A course in pathogenic bacteriology, not requiring course 1 as a preliminary. This is the minimum course filling the medical requirement. Prerequisite: Physiology 2, 3, 9, and Chemistry 3.

5 units, 1st semester

Lec. Lab. MWF 8:15-11:15 (MANWARING, SEARS, TERRY)

2b. Animal Parasites and Insect Carriers.—Lectures, parallel with course 2, on the principal animal parasites and insect carriers of importance in human medicine.

Lec. T 10:15-11:15 1 unit, 1st semester (HEATH, DOANE)

3. Industrial Bacteriology.—A study of the non-pathogenic microorganisms of importance in the chemical industries. Prerequisite: Chemistry 3, *c, d,* 11, *g,* and course 1. [Not given in 1914-15.]

By arrangement 3 units, 1st semester (MANWARING, SEARS)

4. Introduction to Immunity.—The physiological responses of the human body to infectious agents. An introduction to serum diagnosis, serum therapeutics and vaccine therapy. The lectures are designed to accompany courses 2 and 2*a*; the laboratory exercises must be preceded by course 1 or 2*a*.

a. Lec. TTh 11:15-12:15 2 units, 1st semester

b. Lab. TTh 8:15-11:15 (MANWARING)

3 units, both semesters, or 6 units, either semester.

c. Bacteriological Histology.—The simpler histological changes following bacterial invasion. For non-medical students. Prerequisite, course 1 or 2*a*. [Not given in 1914-15.]

By arrangement 3 units, 2d semester (MANWARING)

5. Hygienic Laboratory Methods.—Bacteriological examination of air, milk, water, and sewage, standardization of antiseptics, etc. Should be accompanied by Chemistry *x* (sanitary water analysis). Prerequisite, course 1 or 2*a*. 3 units, either semester

Lab. TTh 8:15-11:15 (MANWARING, SEARS)

5*a*. *Municipal and State Control of Infectious Agents.*—Quarantine, inspection, isolation, disinfection, etc. For non-medical students. Prerequisite, course 1 or 2*a*.

Lec. by arrangement 1 unit, 1st semester (TERRY)

6. Aseptic Technique.—Methods of preventing and controlling infections during physiological and surgical operations. For non-medical students. Prerequisite, course 2 or 2*a*. [Not given in 1914-15.]

Lab. S 9:15-12:15 1 unit, 2d semester (MANWARING)

7. Seminary, Journal Club.—By arrangement.

1 unit, both semesters (MANWARING, SEARS)

8. Advanced Work, Medical Thesis, Research.—By arrangement.

5 units, both semesters (MANWARING)

Major students in the Department of Bacteriology and Immunity will spend the first two and a half years in a preliminary CHEMICAL-BIOLOGICAL COURSE, and will begin bacteriological work in the second semester of their junior year. They may select either of the following curricula, parentheses indicating recommended electives:

A. SANITARY BACTERIOLOGY

FIRST YEAR—Physics 7, German 1, English 2, Botany 1, (Philosophy 1, 6), (Mathematics 7, or Applied Mathematics 1).

SECOND YEAR—Chemistry 1, *a*11, German 2*a*, Economics 1, Zoology 1, (Physiology 9), (French 1).

THIRD YEAR—Chemistry 3, *c*, 6, *b*, *d*, Physiology 2, 3, 9, Economics 13, Bacteriology 1, (Chemistry 2), (German 2*aa*), (French 3).

FOURTH YEAR—Chemistry 11, *g*, *x* (sanitary water analysis, toxicology, food analysis), Bacteriology 2, 4, 5, 6, 7, (Economics 32).

B. GENERAL PRE-MEDICAL COURSE

FIRST YEAR—Physics 7, German 1, English 2, Botany 1, (Philosophy 1, 6), (Mathematics 7, or Applied Mathematics 1).

SECOND YEAR—Chemistry 1, *a*11, German 2*a*, Zoology 1, (Physiology 9), (Economics 1), (French 1).

THIRD YEAR—Chemistry 1*med*, *k*, Physiology 2, 3, 9, Zoology 11, Bacteriology 1, (Economics 13), (German 2*aa*), (French 3).

FOURTH YEAR—Chemistry 11, *g*, Anatomy 1, 2, 3, Physiology 4, 5, Bacteriology 2, 4.

FEES.—All courses in Bacteriology and Immunity are open to medical students without extra fee. Non-medical students will be charged fees, as follows: courses 2, 4*c*, and 6, $5 each; courses 1, 3, and 5, $10 each; courses 2*a* and 8, $15 each. All students pay for individual breakage and loss of apparatus.

PHYSICAL TRAINING AND PERSONAL HYGIENE

ENCINA GYMNASIUM

ROYCE REED LONG, Assistant Professor and Director of Physical Training.

HARRY WILFRED MALONEY, Assistant.

[1]JOHN FRYE CHAPMAN, [1]GEORGE STEVENSON HOLEMAN, ERNESTO RAY KNOLLIN, [2]PERCY EARL LELAND, [2]LLOYD ROBINSON REYNOLDS, EARL THEODORE SCOTT, ARCHER BELL STUART, [2]JAMES HAROLD THOBURN, CHARLES HYDE WOLLASTON, [1]HARRY ALPHONSO WYCKOFF, Gymnasium Assistants.

FRANK LEONARD STILLSON, Custodian Encina Gymnasium.

The gymnasium is a laboratory of personal hygiene. Its function is to improve standards of health and to increase physical and mental efficiency. The work is planned to provide for two classes of students: (1) those interested primarily in their own motor development and hygiene, and (2) those preparing to teach or direct physical education in schools, clubs, or public playgrounds.

The TEACHER'S RECOMMENDATION.—Students majoring in Physiology, Zoology, Education, Economics, or other departments may qualify for a teacher's recommendation in physical education by completing satisfactorily the following courses: Physical Training *2a*, *b*, *c*, *d*, *e*, 3, 4; Physiology 1, 2, 3, 9; Anatomy 1, 2, 3, 4; Bacteriology 1; Chemistry 1; Education 2, 11, 12, 14.

1. **Physical Training.**—Three exercise hours per week in the gymnasium or its outdoor athletic sections. Registration may be repeated, but each student must make progress toward his highest physical efficiency. A regulation gymnasium uniform is required.

MWF 10:15, 11:15, 4, 5; TThS 11:15

1 unit, each semester (LONG, MALONEY, and Assistants)

2. **Physical Training: Teachers' Course.**—Open to qualified students desiring to prepare as teachers of physical training in the schools or as directors of play and of public playgrounds. This work will require from two to three years to complete, depending on previous preparation. (*a*) Theory and technique of gymnastics, athletic sports, gymnastic and playground games; (*b*) Personal hygiene and first aid; (*c*) Physical examinations; (*d*) Gymnasium and playground equipment and supervision; (*e*) A survey of the literature on physical training.

In addition, students are expected to take certain courses in physiology, anatomy, education, and social science (see Department of Education). 1 to 3 units, each semester

TTh 5-6, and by arrangement (Long)

3. Public Health.—Two lectures per week on public and occupational hygiene. Stereopticon slides and other illustrative material will be used. Trips to the federal quarantine station and city health departments in the vicinity of San Francisco Bay will be required.

TTh 8:15 1 unit, 1st semester (Long)

4. Individual Hygiene.—One lecture per week with assigned references and reports. T 8:15 1 unit, 2d semester (Long)

ROBLE GYMNASIUM

Clelia Duel Mosher, Assistant Professor and Director.
Florence Cotten Burrell, Etta L. Paris, Instructors.
Harry Wilfred Maloney, Assistant in Fencing.
Faith A. Swift, Gymnasium Assistant.

The aims of Roble Gymnasium, which is the laboratory of personal hygiene, are (1) to improve the standard of physical health of the women and to increase their mental and physical efficiency; (2) to give some of the preliminary work to students who are preparing to teach physical training and direct playground work.

1. Physical Training and Personal Hygiene.—Three hours per week in the gymnasium or its open air divisions. Open to all women students. Registration may be repeated each semester, but the student must show steady progress toward her highest physical efficiency. The Stanford regulation gymnasium suit is required. All work is under the close supervision of the Medical Director.

First Year—Gymnastics, Folk and Gymnastic Dancing, Elementary Sports.

Second, Third, and Fourth Years—Gymnastics, Folk and Gymnastic Dancing, Sports or Fencing. 1 unit, each semester

(Mosher, Maloney, Burrell, Paris)

(1st year Gymnastics) MWF 10:15, 11:15; (Elementary Gymnastic and Folk Dancing) TThF 10:15; (Advanced Gymnastic and Folk Dancing) TThF 11:15; (Elementary Sports) MTWTh 11:15, MWF 3:30; (2d, 3d, and 4th year Advanced Sports) MTWThF 4:30; (Advanced Gymnastics) MWF 4:30; (Intermediate Gymnastic and Folk Dancing) MWF 4:30; (Elementary Fencing) MWF 11:15; (Advanced Fencing) TThF 10:15.

2. Personal Hygiene.—Two lectures per week. Open to all women students. Required of all women taking courses 3 to 6.

TTh 10:15 2 units, 1st semester (Mosher, Swift)

3. Physical Training Theory.

TTh 3:30 2 units, 1st semester (Paris)

4. Practice Teaching.—Two hours per week.

TTh 3:30 1 unit, 2d semester (Paris)

5. Playground Theory and Administration.—Lectures, recitations, and field work, with reference readings and papers. Open only to students who have had one or more years of Physical Training 1, and Personal Hygiene 2.

TTh 10:15 2 hours, 2d semester (Burrell)

6. Supervision of Children's Play.—Three hours per week. Open only to students taking course 5.

1 unit, each semester (Burrell)

Women preparing to teach Physical Training or to supervise playground work should take the courses listed below in addition to the courses offered in this department. Such students are advised to major in Zoology; if other majors are desired students are requested to consult the Director.

Zoology.—1. Elementary. (3 units, both semesters)
3. The Vertebrates (Field Work). (2 units, both semesters)
7. Microscopical Anatomy. (2 units, first semester)
Anatomy.—1. Osteology. (2 or 3 units, 1st semester)
2, 3, 4. Dissections of (2) Head, Neck, Thorax, (3) the Upper Extremity, (4) Lower Extremity and Abdomen. (2 to 5 units or more)
7. Topographical Anatomy.
Physiology.—2. Muscle and Digestion. (4 units, 1st semester)
3. Blood and Circulation, Respiration, Elimination of Wastes, Metabolism, and Nutrition. (4 units, 2d semester)
Psychology.—Either course 1 or course 1*a*.
1. Elementary Psychology. (4 units, 1st semester)
1*a*. Mental Hygiene. (2 units, 1st semester)
Botany.—12. Field Botany. (1 unit, both semesters)
Entomology.—1. Elementary. (3 units, either semester)
English.—Vocal Expression. (3 units, either semester)
Economics.—1. Elements. (3 units, both semesters)
Mechanical Engineering.—5. Woodworking.
(2 exercises a week, one semester)

ZOOLOGY

CHARLES HENRY GILBERT, HAROLD HEATH, GEORGE CLINTON PRICE, Professors.

‡JOHN OTTERBEIN SNYDER, Associate Professor.

†EDWIN CHAPIN STARKS, †WALTER KENDRICK FISHER, Assistant Professors.

WILLIAM FRANCIS THOMPSON, WILLIS HORTON RICH, Acting Instructors.

CLARA CROSBY, LESLIE SUTHERLAND TULLOCH, Assistants.

[Courses 1, 2, and 3 may be undertaken without previous preparation in Zoology.]

1. Elementary Zoology.—A laboratory course involving the study of representatives of the principal groups of animals, accompanied by lectures on their structure and classification, and on the general laws of biology which they illustrate. The course may be begun the second semester by students matriculating at that time.

Lec. M 1:30; Lab. MT 1:30-4:30 3 units, both semesters
(PRICE, CROSBY, TULLOCH, RICH, THOMPSON)

2. Elementary Zoology (special).—A laboratory course for beginners designed to meet the needs of major students in Geology. A considerable number of forms in each of the principal groups will be studied, and attention will be given to the conditions under which animals live. Field trips will constitute a required part of the course. [Not given in 1913-14.]

2 units, both semesters (FISHER)

3. The Vertebrates.—A general course in the classification of vertebrate animals, with studies in their habits and the geographical distribution of species. The course will include field excursions and a study of the methods of collecting and preserving specimens. The course may be begun either semester. 2 units, both semesters

Lec. Th 2:30; Lab. ThF 1:30-4:30 (SNYDER, RICH)

4. The Invertebrates.—This course, following course 1 or 2, is designed to give the student a broader knowledge of the morphology and relationships of the more important invertebrate groups.

Lec. by arrangement; Lab. MT 1:30-4:30
3 units, both semesters (HEATH)

†Absent on leave, 1913-14.
‡Absent on leave, second semester, 1913-14.

5. Invertebrate Embryology.—A study of segmentation, the formation of the germ layers, and certain phases of the later development, including the significance of larval forms and the relationships of the principal phyla. Must be preceded by courses 1 or 2, and 4.

Lab. ThF 1:30-4:30

2 units, both semesters (beginning 2d semester) (HEATH)

6. Advanced Work on Invertebrates.—The original investigation of problems connected with the anatomy and embryology of invertebrates.

By arrangement 3 to 5 units, both semesters (HEATH)

7. Microscopical Anatomy.—A study of the fundamental animal tissues, with drill in microscopical technique.

Lab. ThF 1:30-4:30 2 units, 1st semester (HEATH)

8. Classification of the Invertebrates.—A course designed to give a wider acquaintance with the larger groups of marine invertebrates. Must be preceded by either course 1 or 2. [Not given in 1913-14.]

3 units, both semesters (FISHER)

9. Special Systematic Work on Invertebrates.—Original investigation of problems connected with the classification of invertebrates. [Not given in 1913-14.] 2 or 3 units, both semesters (FISHER)

10. Comparative Anatomy of the Vertebrates.—A detailed examination of vertebrate morphology, including dissection of representatives of the several classes of vertebrates, with comparative studies in vertebrate osteology, the nervous and circulatory systems, etc.

Lab. MTW 1:30-4:30 3 units, both semesters

(SNYDER, THOMPSON)

11. Vertebrate Embryology.—First semester: development of the chick through the first three days of incubation. Second semester: the early stages in the development of the salamander and the later stages in the development of the mammal. 2 units, both semesters.

Lec. Th 1:30; Lab. ThF 1:30-4:30 (PRICE)

12. Ichthyology.—A course of lectures and laboratory work, including an examination of the larger groups of fishes with special reference to the characters on which they are based, and including practical work in the discrimination of species.

WThF 1:30-4:30 2 units, both semesters (GILBERT)

13. Advanced Ichthyology.—Special problems in the morphology and classification of fishes will be set for advanced students prepared for such work.

By arrangement 2 to 5 units, both semesters (GILBERT)

14. Journal Club.—Open to seniors and graduate students. 2 units, both semesters (GILBERT)

Major students must before graduation complete courses 1, 3, 4, 7, 10, 12, 14, the first semester of courses 5 and 11, one advanced course in Zoology, and course 1 in Botany.

Work for graduate and special students will be laid out in accordance with their individual needs and preferences.

Students who look forward to the study of medicine may take Zoology for their major subject and receive the B. A. degree at the close of a four years' course which shall also contain the first year in medicine. The following courses in Zoology will be required of such students: Zoology 1, 6 units; The Invertebrates, 6 units; Comparative Anatomy, 6 units; Embryology, 4 units; Journal Club, 4 units.

THE TEACHER'S RECOMMENDATION.—The Department recommendation for High School teaching in Zoology requires the completion of the following subjects: Elementary Zoology, 6 units; the Invertebrates, 6 units; the Vertebrates, 4 units; Comparative Anatomy of the Vertebrates, 6 units.

THE ZOOLOGICAL COLLECTIONS

The ZOOLOGICAL MUSEUM contains a very full representation of the fishes of North America, and includes among others a valuable series of the deep-water fishes of the Pacific, and large collections from the West Indies, the Hawaiian Islands, Bering Sea, Japan, the coasts of Mexico and Central America, and the Galapagos Islands. The museum contains also a large representation of the reptiles, batrachians, birds, and mammals of California and adjoining States. The collection of marine invertebrates is rich in Pacific echinoderms and crustacea, and contains a good working nucleus in the other principal groups. The series of deep-sea forms is especially valuable.

LABORATORY FEES.—All laboratory courses, $3 each per semester.

ENTOMOLOGY AND BIONOMICS

Vernon Lyman Kellogg, Professor.
†Mary Isabel McCracken, Rennie Wilbur Doane, Assistant Professors.
Erval Jackson Newcomer, Acting Instructor.
May Knight Bell, Assistant.
Gordon Floyd Ferris, Undergraduate Assistant.
‡David Starr Jordan, Lecturer.

ENTOMOLOGY

1. Elementary Entomology.—The elementary study of insect structure, development, and classification, including practice in collecting and preserving specimens. A preparatory study of the subject of entomology.

MWF any forenoon hours 3 units, either semester (Newcomer)

2. Morphology and Physiology of Insects.—A study of the metamorphosis, comparative morphology, and special physiology of insects, with a comprehensive study of the honey-bee.

MWF any forenoon hours 3 units, either semester (Newcomer)

3. Natural History and Classification of Insects.—A comprehensive study of the natural history and classification of insects, and the literature of entomology. Field and laboratory work.

Forenoon hours 4 units, either semester (Kellogg, Newcomer)

4. Economic Entomology: Coccidae (the Scale Insects).—A study of the classification, general biology, and economic relations of the scale insects, with particular attention to the more important injurious ones of the Pacific Coast. Field, laboratory, and bibliographic work, with occasional lectures. Must be preceded by courses 1, and 2 or 3.

Any three afternoons, 1:30-4:30 2 or 3 units, either semester (Doane)

5. Economic Entomology: Forest Insects.—A study of the insect enemies of forest and shade trees. The course includes field, laboratory, and bibliographic work. Should be preceded by course 4.

MWF 1:30-4:30 3 units, 1st semester (Doane)

6. Economic Entomology: Orchard and Garden Insects.—A study of the principal injurious and beneficial insects of the orchard and garden. Includes field, laboratory, and bibliographic work, and a

†Absent on leave, 1913-14.
‡Absent during 1913-14.

weekly lecture on the history, principles, and practice of economic entomology. Should be preceded by course 4.

MWF 1:30-4:30 3 units, 2d semester (DOANE)

7. Economic Entomology: Advanced Work.—Studies of one or more groups of insects of economic importance, including systematic biological and sociological investigations, and methods of controlling the injurious species. Field, laboratory, and library work, with occasional lectures. Intended for students fitting themselves for practical work in Economic Entomology. Open to advanced students by arrangement.

3 to 5 units, both semesters (DOANE)

8. Insects and Disease.—A discussion of the insects that cause or disseminate some of the diseases in man and the domestic animals. Lectures and demonstrations. Open to students having some previous training in biology.

Lec. TTh 9:15 2 units, 2d semester (DOANE)

9. General Entomology and Insect Adaptations.—A course of lectures and demonstrations. Open to students who have had some work in Biology (Entomology, Zoology, Botany, or Physiology).

Lec. TTh 9:15 2 units, 1st semester (KELLOGG)

10. Advanced Work.—Advanced study and investigation of the biology of insects. Laboratory and field work.

Any forenoon hours 2 to 5 units, both semesters (KELLOGG)

BIONOMICS

11. Organic Evolution.—Lectures on the laws or principles of biology and the factors in organic evolution. Not open to first- and second-year students.

MWF 10:15 2 units, 2d semester (KELLOGG)

12. Man in Nature and Evolution.—Open to students who have had course 11 or considerable work in Biology. Admisson to course only by arrangement. [Not given in 1913-14.]

2 units, 2d semester (KELLOGG)

Work for graduate and special students will be specially arranged.

Major students in Entomology must obtain before graduation twenty-four units of credit in Entomology, and credit for course 1 in Zoology, and course 1 in Botany, making thirty-six units in biological subjects.

The Entomological Collections contain authoritatively determined specimens, accessible for comparison, in all of the insect orders, and include many sets of specimens illustrating the development and habits of insects. There is included, also, the most important existing collection of North American Mallophaga, comprising the types of four-fifths of all the species so far described from North America and the Pacific Islands, an unusually large collection of Coccidae (scale insects), and a valuable series of specimens from the Galapagos Islands.

Laboratory Fees.—$3 per semester for each laboratory course.

GEOLOGY AND MINING

GEOLOGY

John Casper Branner, James Perrin Smith, Professors.
Austin Flint Rogers, Cyrus Fisher Tolman, Jr., Associate Professors.
Warren Gosselin Cooper, Undergraduate Assistant in Mineralogy.
Herbert Stone, Curator in Geology.
Sadie Keen, Stenographer.

Students intending to make Geology their major subject should offer, as a part of their entrance preparation, solid geometry, trigonometry, physics, chemistry, zoology, and French or German, or both; otherwise the mathematics, physics, chemistry, and language must be taken in the University.

1. Dynamic and Structural Geology.—Lectures, with syllabus.
MWF 8:15 3 units, 1st semester (Branner)

1a. Physiography.—Lectures, with syllabus. Open to students who have completed course 1.
W 8:15 1 unit, 2d semester (Branner)

1b. Field Excursions.—Open to Geology and Mining Majors only.
Saturday forenoons 2 units, 1st semester (Tolman)

2. Economic Geology.—Lectures, with syllabus. Open to students who have completed course 1.
TTh 8:15 2 units, 2d semester (Branner, Tolman)

2a. Ore Deposits.—Supplementary to course 2. Open to students who have completed or are taking course 5.
MF 8:15 1 unit, March and April (Tolman)

3. Topographic Geology.—Field and laboratory work, with the construction of geologic maps and sections. Open to students who have completed course 1 in Geology and course 4*a* in Civil Engineering.

4 units, summer vacation (BRANNER, TOLMAN)

4. Field Geology.—Field practice in working out geology in the field and its representation upon topographic maps and sections. Prerequisites: Geology 1 and 1*b*, and Civil Engineering 4*a*.

5 units, summer vacation (BRANNER, TOLMAN)

5. Mineralogy.—(*a*) Methods of study and the determination of minerals, including Crystallography and Blowpipe Analysis (first semester); (*b*) Study of common and important minerals (second semester). (Rogers' Introduction to the Study of Minerals). Open to students who have taken or are taking qualitative analysis.

(1st sem.) Lec. WF 11:15; Lab. 1:30-4:30; (2d sem.) Lec. ThF 11:15; Lab. 1:30-4:30 3 units, both semesters (ROGERS, COOPER)

6. Petrography.—(*a*) Crystal optics and study of rock-forming minerals in thin sections and hand specimens (first semester); (*b*) study of principal rock types, igneous, sedimentary, and metamorphic (second semester). Open to students who have completed course 5 or equivalent.

(1st sem.) Lec. T 11:15; Lab. 1:30-4:30. (2d sem.) Lec. W 11:15; Lab. 1:30-4:30 2 units, both semesters (ROGERS)

7. Paleontology.—(*a*) Systematic Paleontology, or the history and character of organisms (first semester); (*b*) Historical Geology, or the history and character of geologic formations (second semester). Open to students who have completed course 1.

MTTh 11:15 4 units, both semesters (SMITH)

8. Paleontology.—Original investigation of various problems in paleontology, especially of invertebrate morphology, and of the distribution of faunas. This course will consist entirely of private work, in field and laboratory. Open to advanced students and graduates.

By arrangement 2 to 5 units, both semesters (SMITH)

9. Advanced Mineralogy.—Properly qualified advanced and graduate students may take up one or more of the following lines of study:

a. Paragenesis of Minerals. The occurrence, association, and origin of minerals. Mineralogy and petrography are prerequisites.

By arrangement 3 units, 1st semester (ROGERS)

b. Chemical Mineralogy. Mineral or rock analysis, including preparation of material and study of some physical properties. Chemistry *e* is a prerequisite. 2 to 4 units, either semester (ROGERS)

c. Crystallography. In the second semester an advanced course will be given in either crystal measurement or in crystal optics.

2 or 3 units, 2d semester (ROGERS)

10. Paleontology.—Lectures on special topics. Open to advanced students and graduates.

TTh 10:15 2 units, both semesters (SMITH)

11. Special Courses.—Special courses of construction and training are laid out for advanced and special students according to the needs and qualifications of each individual. Special investigations are taken up by advanced students as rapidly as it is possible for them to undertake such work advantageously. Such investigations may include field work, study of geological literature, and laboratory work. Advanced work in ore deposits includes the study of ore and gang minerals by means of both the ordinary and the reflecting microscope.

1 to 5 units, both semesters (BRANNER, TOLMAN)

11a. Ore Deposits.—Advanced course. Prerequisites: Geology 1, 2, and 9*a*.

MWF 9:15 3 units, 2d semester (TOLMAN)

FEES.—Course 1, $3; course 2, $3; course 3, $15; course 4, $20; course 5, $5 each semester.

MINING AND METALLURGY

DAVID MORRILL FOLSOM, GALEN HOWELL CLEVENGER, Associate Professors.

HAYES WILSON YOUNG, Instructor.

WALDEMAR FENN DIETRICH, Acting Instructor.

KENNETH PYLE, Undergraduate Assistant in Metallurgy.

Students intending to make Mining and Metallurgy their major subject should offer as a part of their entrance preparation, solid geometry, trigonometry, advanced algebra, physics, chemistry, zoology, and Spanish, French, or German; otherwise the mathematics, physics, chemistry, and one language must be taken in the University.

The Department offers to students a five-year curriculum leading to the degree of Mining Engineer or Metallurgical Engineer.

The degree of Bachelor of Arts will be granted upon the satisfactory completion of four years of this curriculum.

Mining

The following is a general summary of the curriculum in Mining, which will be subject to adjustment in individual cases:

First Year—Applied Mathematics 1 (10 units); Engineering 1*a*, 1*b* (6 units); Chemistry 1, *a* (6 units); English *A*, 2 (3 units); Language—French, German, or Spanish (6 units). Total, 31 units.

[None of the first-year subjects offered in the second semester can be taken without the first semester's work. First-year students can therefore advantageously enter the course as outlined above only at the beginning of the first semester.]

Second Year—Applied Mathematics 2, 3 (16 units); Mechanical Engineering 11 (2 units); Chemistry 6, *b*, *d* (8 units); Geology 5 (6 units); English 2*b* (2 units). Total, 34 units.

Third Year—Engineering 2, 3 (10 units); Civil Engineering 4*a* (5 units); Mechanical Engineering 1*a*, 1*b* (3 units); Geology 1, 2, 6 (12 units); Mining 8 (4 units). Total, 34 units.

Fourth Year—Chemistry *h* (3 units); Geology 3, 4, 7*b* (13 units); Mining 1, 2, 4, 9, 10, *a* (16 units); Electrical Engineering 1 (4 units). Total, 39 units.

Geology 3 and 4 (9 units) are given during the summer vacation, between the third and fourth years.

In the fourth year Mining *b* (3 units) or Civil Engineering 8*c* (3 units) are electives. Mechanical Engineering 31 and 24 may be substituted for Engineering 3.

Fifth Year—For the degree of Mining Engineer the following curriculum is suggested: Mechanical Engineering 35, 36 (6 units); Civil Engineering 8*b* (3 units).; Geology 9*a*, 11*a* (6 units); Mining 3, 5, 6, 7, *b* (21 units). Total, 36 units.

1. **General Lectures on Mining.**—Including methods of earth and rock excavation, prospecting, tunneling, shaft sinking, and mining methods. Open to students who have completed Geology 1 and 2.

MTWThF 10:15 5 units, 1st semester (Folsom, Dietrich)

2. **Ore Dressing.**—Lectures on crushing and concentrating machinery and methods.

TTh 9:15 2 units, 2d semester (Clevenger, Folsom)

3. **Summer Mining.**—Two months' systematic work in the mines. Between fourth and fifth years. 4 units

4. **Lectures on Mine Plant.**—Including hoisting machinery, com-

pressors, mine pumps, ventilating fans, and the handling of ore underground and on the surface.

MWF 8:15 3 units, 2d semester (Folsom)

*5. **Ore Dressing.**—Continuation of course 2. Theories of concentration and comparison of milling practice in different parts of the United States.

By arrangement 2 units, 1st semester (Folsom)

*6. **Mine Engineering.**—Lectures and assigned reading on general engineering problems in connection with mining operations, including administration, organization, mine examinations, accounting, surveying, etc.

By arrangement 2 units, 2d semester (Folsom)

7. **Mine Thesis.**—Each student describes and estimates the cost of the development and equipment of an hypothetical mining property under conditions which are assigned so as to fit the experience he has gained in his summer work.

5 units, both semesters (Folsom, Dietrich)

Metallurgy

Students working for the degree of Metallurgical Engineer will be required to take the same work for the first three years as the Mining Engineers.

In the fourth and fifth years the following courses must be substituted for engineering courses: Chemistry 2, 8, *e* (16 units).

A thesis on a metallurgical subject and advanced laboratory work will also be required in the fifth year.

The following four-year curriculum is offered for the degree of Bachelor of Arts:

First Year—Applied Mathematics 1 (10 units); Engineering 1*a*, 1*b* (2 units); Mechanical Engineering 11 (3 units); Chemistry 1, *a* (6 units); English *A*, 2 (3 units); Language—French, German, or Spanish (6 units). Total, 30 units.

Second Year—Chemistry 2, 6, *b*, *d* (14 units); Geology 5 (6 units); Civil Engineering 4*a* (5 units); English 2 (2 units); optional (3 units). Total, 30 units.

Third Year—Chemistry 10, *e*, *h* (9 units); Geology 1, 2, 3, 4, 6 (18 units); Mining 2 (2 units); Mechanical Engineering 1*a*, 1*b*, 24, 31 (9 units); optional (3 units). Total, 39 units. Geology 3 and 4 (9 units) are given during the summer vacation.

*For fifth-year students only.

FOURTH YEAR—Electrical Engineering 1 (4 units); Mining 1, 4, 8, 9, 10, *a*, *b*, *d* (24 units). A short thesis will also be required for graduation, making a total for the year of 30 units.

The courses in Metallurgy are not open to first-year students.

IGNEOUS METALLURGY

8. General Metallurgy.—Lectures upon the principles of metallurgy, fundamental chemical reactions, fuel, pyrometry, refractory materials, etc. Metallurgy of Copper and Lead: Lectures upon processes of lead and copper smelting, electrolytic copper refining, refining of base bullion, parting and electrolytic refining of Doré bullion. This course also deals with the metallurgy of gold and silver in so far as their metallurgy is inseparable from that of copper and lead. Open to students who have completed Chemistry 1.

TWThF 10:15 4 units, 2d semester. (CLEVENGER, YOUNG)

9. Metallurgy of Constructive Materials.—Lectures upon the manufacture and properties of iron and steel, and to a less extent the other alloys used in engineering. Bearing metals, bronzes, brasses, etc. Laboratory work in this course is given in connection with Engineering *2b* (Mechanics of Materials). Open to students who have completed Chemistry 1.

TTh 8:15 2 units, 1st semester (CLEVENGER)

HYDRO METALLURGY

10. Metallurgy of Gold and Silver.—Lectures upon the cyanide process of gold and silver extraction. The older and now almost obsolete processes of chlorination, hyposulphite lixiviation, patio, and pan amalgamation, etc., are dealt with very briefly. Open to students who have completed Chemistry 1 and *a*, and prerequisite of laboratory course *b*. TTh 10:15 2 units, 1st semester (CLEVENGER)

LABORATORY COURSES

a. General Metallurgy Laboratory.—A course of carefully selected experiments which illustrate the lectures in Metallurgy 8. Open to students who have completed Chemistry *h*, and course 8; in special cases may be taken at the same time as Metallurgy 8.

ThF 1:30 2 units, 2d semester (YOUNG)

b. Metallurgy of Gold and Silver Laboratory.—This course involves the laboratory examination and report upon the possible treat-

ment of gold and silver ore by the cyanide process. Open to students who have completed Chemistry *d* and *h*, and Metallurgy 10.

MTWThF 1:30 3 to 5 units, either semester (YOUNG)

c. Metallography.—Conferences, reading, and laboratory work. Includes the study of micro-structure and cooling curves. Open to students who have completed Chemistry 10 and *i*, Mineralogy 5*a* and 5*b*, Petrography 6*a* and 6*b*.

1:30, by arrangement 3 to 5 units, either semester (CLEVENGER)

d. Metallurgical Research.—Properly qualified students may take up any subject of metallurgical investigation in laboratory, and under proper restrictions, certain investigations may be carried on in the field, also work in bibliography. Any number of units, either semester.

1:30, by arrangement (CLEVENGER)

FEES.—Courses 1, 8, 9, and 10, $5 each; course 4, $3; courses *a* and *b*, $10 per unit each; course *c*, $5 per unit; course *d*, according to amount of work done.

ENGINEERING

A. ENTRANCE SUBJECTS

Entering students whose major work is to be in any engineering department should be thoroughly prepared in elementary mathematics, and should have entrance credit in algebra (at least one and one-half units), plane and solid geometry, and plane trigonometry, in order to be able to take the first year's work in Applied Mathematics for engineers.

B. GENERAL COURSES

I. APPLIED MATHEMATICS

FIRST YEAR—Course 1 in Applied Mathematics.

SECOND YEAR—Courses 2 and 3 in Applied Mathematics. (See announcement of Department of Applied Mathematics, p. 155.)

II. GENERAL TECHNICAL COURSES

1a. Linear Drawing and Lettering.—(Drafting two afternoons a week, first half of the semester.) Open to all students, and required of those whose major subject is in any of the engineering departments, whether or not they have received entrance credit in mechanical drawing. This requirement is waived, however, for a student who satisfies the instructor that he has had the equivalent of this course, by sub-

mitting work in linear drawing and freehand lettering, or by passing a special examination. The instruments and materials for this course cost from twenty to thirty dollars.

MT or ThF 1:30-4:30 1 unit, either semester (Foss)

1b. Descriptive Geometry. — Including applications to shades, shadows, and perspective. (Two afternoons of drafting each week, November and December. Two lectures and two afternoons of drafting each week, January to May.) This course is open to students who have completed or who are taking Solid Geometry and Engineering 1*a*, and is required of students whose major subject is in any of the engineering departments.

Lec. TTh 8:15, 10:15; Dft. MT or ThF 1:30-4:30
1 unit, 1st semester; 4 units, 2d semester (Foss)

2. Applied Mechanics:—

a. Mechanics of Materials.—A study of the theory of the strength and elastic properties of the ordinary materials of engineering construction. The main subjects covered are simple tension, compression, and shear; theory of flexure, with application to simple, continuous, and non-homogeneous beams; theory of long columns; torsion; repeated stress; sudden stress and resilience. (Lectures and recitations three hours a week.)

b. Testing of Materials.—Each student is required to make a series of experiments, testing the strength and elastic properties of structural materials. A careful record of all experiments is required of very student. (Laboratory work, six hours a week.)

Open to students who have completed the first- and second-year courses for Engineering students in Applied Mathematics; required of all students having Engineering as a major subject.

Lec. MWF 9:15; Lab. MWF 10:15-12:15, or MT or ThF 1:30-4:30
5 units, 1st semester (Wing, Moser)

3. Hydraulics:—

a. Theoretical Hydraulics.—This course treats of fluid pressure, the principles of fluid equilibrium, and the laws governing the flow of water through orifices, over weirs, in closed conduits, and in open channels, followed by a study of the basal theory of hydraulic turbines.

MTWThF 9:15 5 units, 2d semester (Hoskins)

b. Experimental Hydraulics.—Including the calibration and use of instruments for the measurement of pressure, velocity, and flow of water under various conditions; the investigation of friction in pipes, bends, valves, and other obstructions, etc. Six hours per week in the

laboratory on experimental work, computations, and reports. Open to students who have taken or are taking Engineering *3a*.

MT 1:30-4:30 (for C. E. majors); MWF 10:15-12:15 (for M. E. majors); WThF 1:30-4:30 2 units, 2d semester (Eckart, Moser)

[*Note*.—See also Hydraulic courses listed under Mechanical Engineering: Testing of Hydraulic Machinery (M. E. 26); Hydraulic Power Stations (M. E. 35*b*).]

I. CIVIL ENGINEERING

Charles David Marx, Charles Benjamin Wing, Leander Miller Hoskins, John Charles Lounsbury Fish, William Rankine Eckart, Professors.

John Harrison Foss, Assistant Professor.

Charles Moser, Instructor.

Arthur Warren Ambrose, Charles Edward Beecher, [2]Chauncey Tennent Keefer, David Lee Narver, Graduate Assistants.

Jesse Ernest Hayes, Harry Lewis McCready, [2]James Kemke Richardson, Arthur Charles Sandstrom, Earl Charles Thomas, [2]Ernest Powell Vigars, Stephen Knight Whipple, Jr., Undergraduate Assistants.

A. Topographic Engineering

4a. Elementary Surveying.—Recitations: systems of co-ordinates, measurements, choice of systems, errors, checks, surveys. Field-work: experimental exercises, surveys. Drafting-room: computing, mapping. (Recitations two hours, field work and drafting nine hours, each week.) Open to students who have completed Engineering *1a* and Applied Mathematics 1. Required of students in Civil and Mining Engineering.

Lec. TTh 9:15; Dft. M 1:30-4:30; Field S 9-4:30.

5 units, either semester (Fish)

4b. Elementary Surveying.—For students in Mechanical and Electrical Engineering. (Field work, reading, and drafting, six hours each week.) Drafting and Field S 9-4:30 2 units, 1st semester (Thomas, McCready)

B. Railroad Engineering

6a. Railroad Surveying.—Recitations: circular curves, spirals and turnouts; reconnaissance, preliminary, location, and construction surveys; earthwork. Field and office: exercises in laying out curves and taking cross-sections for topography and earthwork, and in plotting them; preliminary survey with profile and topographic map; paper

location with profile and quantities; staking out paper location; earthwork and drainage surveys; final location profile and map; earthwork computations; distribution of material with use of mass diagram; overhaul computation; estimate of cost. (Recitations two hours, drafting and field work nine hours, each week.) Open to students who have completed *4a*. Required of students in Civil Engineering.

Lec. TTh 9:15; Dft. M 1:30-4:30; Field S 9-4:30

5 units, 2d semester (FISH)

6b. Railroad Location.—Locomotive tractive force and resistances thereto, velocity profile, momentum grade. Traction problems involving inter-relation of train weight, grade, speed, and characteristics of locomotive. Tonnage rating. Value of change in distance, curvature, rise and fall, and ruling grade, based on analysis of operating expenses. Pusher grades, balanced grades for unequal traffic and for adjacent divisions. Open to students who have completed *6d*.

Lec. TTh 11:15 2 units, 2d semester (FISH)

6c. Railroad Construction.—Lectures: methods of construction; choice of construction plant; collection and record of information upon which general plans and detail designs are based; general planning and detail designing; staking out; inspection; classification; monthly estimates; records, reports, and accounts; checks and controls. Assigned problems: economic distribution of material along the profile; comparison of trestle and fill with opening; economic division point for open cut and tunnel. (Lectures two hours, assigned reading, computing, and drafting, one, four, or seven hours, each week.)

Lec. and Dft. TTh 11:15 1 to 3 units, 2d semester (FISH)

6d. Engineering Economy.—The problem of economic selection, interest, sinking funds, first cost, salvage value and depreciation, elements of cost of service (including amortization), estimating and reliability of estimates, basis of economic comparison, procedure in economic comparison. (Lectures, recitations, assigned reading, and problems, six hours per week.)

Lec. TTh 8:15 2 units, 1st semester (FISH)

C. Structural Engineering

8a. Elements of Design:—

1. *Materials.*—[See course 9 in Mining and Metallurgy.]

2. *Mechanics of Structures.*—Course 3 in Applied Mathematics is extended to the analytical and graphical determination of stresses in simple trusses.

3. *Theory of Structural Details.*—Section 2 above is extended to an investigation of the distribution of stresses in structural details.

Open to students who have completed course 1 in Engineering, and who have taken or are taking course 2 in Engineering, and also course 9 in Mining and Metallurgy. Required of all students having Civil Engineering as a major subject.

WThF 1:30-4:30 3 units, 1st semester (MOSER)

8b. Elements of Design:—

1. *Materials.*—Structural materials, other than metals, are studied from an engineering standpoint. Wood, stone, brick, limes, cement, etc., are considered in order. (Lectures and assigned reading three hours a week first half of semester.)

2. *Foundations.*—Under this head are considered the bearing power of soils, strength of piles, distribution of pressures, and similar details connected with the design of simple foundations. (Lectures and assigned reading three hours a week, last half of semester.)

3. *Design.*—Complete designs are made, including working drawings, bill of materials, and estimate of cost, of some simple structure, such as a mill building or highway structure. (Drafting-room, nine hours a week first half of semester; six hours a week last half of semester.)

4. *Testing.*—Extending the work of course 2*b*. Each student is required to make a series of experiments, testing the physical properties of cement and other masonry materials. (Laboratory, last half of semester.)

Open to students who have completed course 8*a* in Civil Engineering; required of all students having Civil Engineering as a major subject. 5 units, 2d semester (WING, MOSER)

Lec. MWF 8:15; Dft. and Lab. WThF 1:30-4:30

8c. Elements of Design.—Courses 8*a* and 8*b* abridged to meet the requirements of students having Mining, Mechanical, or Electrical Engineering as a major subject. Special applications are made to hoisting and conveying structures, mill buildings, and central station buildings.

Open to students who have completed courses 1 and 2 in Engineering and course 9 in Mining and Metallurgy.

By arrangement 2 or 3 units, 2d semester (WING)

9. Railway Bridges.—This course comprises the determination of the stresses in modern types of railroad bridges, including cantilever and swing spans, masonry arches, and arch ribs; the discussion of the most economical types, spans, and dimensions of bridges and bridge

members; the study of the methods of constructing sub-aqueous foundations, shop methods, erection, inspection of material, specifications, and other factors influencing the design of bridges. Designs are made by each student to fulfill actual conditions, the parts proportioned, and bills of material prepared. Open to students who have completed course 8. (Lectures two hours per week, drafting nine hours.)

5 units, 1st semester; 5 or 2 units, 2d semester (WING)

Lec. TTh 10:15 (1st sem.), 9:15 (2d sem.); Dft. WThF 1:30-4:30.

D. HYDRAULIC ENGINEERING

12. Water-Supply Engineering for Towns and Districts.—Sources of supply. Collecting and storing of water, either for water supply of towns or for irrigation purposes. Settling, filtering, conducting, and delivering of water, including the study and design of all accessory works. (Three hours lectures and recitations, six hours drafting.) Open to students who have completed courses 2 and 3 in Engineering and 4*a* and 8*a* in Civil Engineering; required of all students who take their major in Hydraulic Engineering. 5 units, 1st semester

Lec. MWF 10:15; Dft. MT 1:30-4:30 (MARX)

13. Sanitary Engineering.—Including sewerage of towns and drainage of lands. Special attention will be given to the study of all municipal sanitary problems, such as removal of sewage, destruction of garbage, construction, maintenance, sweeping, and repairs of streets and pavements. (Three hours lectures and recitations, six hours drafting.) Open to students who have completed courses 2 and 3 in Engineering and 4*a*, 8*a*, and 12 in Civil Engineering; required of all students who take their major in Hydraulic Engineering.

5 units, 2d semester (MARX)

15. Construction of Canals, River and Harbor Improvements.—Lectures and designing as per arrangement. Open to students who have completed courses 2*a*, 2*b*, and 3 in Engineering and 4*a* and 8*a* in Civil Engineering.

MT 1:30-4:30 2 units, both semesters (MARX)

16. Technical Seminary.—Study of German and French technical journals. Open only to fourth-year students in Civil Engineering.

By arrangement 2 units, both semesters (MARX)

II. MECHANICAL ENGINEERING

William Frederick Durand, Guido Hugo Marx, William Rankine Eckart, Professors.

†Everett Parker Lesley, Charles Norman Cross, Lawrence Edminster Cutter, Assistant Professors.

Edward John Stanley, James Bennett Liggett, Theron James Palmateer, Robert Henry Harcourt, Clarence P. Campbell, Instructors.

Chauncey Tennent Keefer, [2]Linford C. Lull, Edward Lawrence Peck, [2]Carl Hamilton Pettit, Graduate Assistants.

James Albert Gibb, Frank L. Nolan, Harold Ferdinand Ridder, Herbert M. Stanley, Edwin Byron Wolford, Undergraduate Assistants.

Walter Uhlman, Custodian and Engineer of Mechanical Laboratory.

Charles Gladwyn Shone, Assistant Custodian of Mechanical Laboratory.

William Boomer Forbes, Stenographer.

Frank Daniel Banham, Foreman of Mechanician Shop.

Myrtil Cole Havens, Mechanician.

The following courses constitute a five years' curriculum leading to the degree of Mechanical Engineer. Students successfully completing the first four years of this curriculum will be granted the degree of Bachelor of Arts.

[Numbers following subjects indicate number of units credit for the year.]

First Year—Applied Mathematics (10); Freehand Drawing (2); Chemistry (9); Shop Work (6); French or German (6); Mechanical Engineering *A* (2).

Second Year—Applied Mathematics (6); Mechanics (10); Linear Drawing and Descriptive Geometry (6); Physics (8); Shop Work (2).

Third Year—Applied Mechanics (5); Hydraulics and Hydraulic Motors (5); Hydraulic Laboratory (2); Machine Drawing (2 or 3); Elementary Machine Design (5); Engineering Reports (2); Surveying (2); Metallurgy (3); Physics (2); Electrical Engineering (3); Shop Work (3).

Fourth Year—Heat Engines (6); Machine Design (8); Experimental Engineering (6); Electrical Engineering (6); Shop Work (6).

Fifth Year—Thermodynamics (1); Advanced Design (3 plus 3 elective); Experimental Engineering (3); Economics (2); Shop Ad-

†Absent on leave, 1913-14.

ministration (3); Power Plants (4); Pumping Machinery (2); Seminary (elective) (4); Thesis (8); Hydraulic Machinery Laboratory (2 elective).

The above represents the requirement for the student entering regularly with minimum mathematics and no advanced credit. For such student, in addition to the above curriculum, there should be a maximum possible elective among other subjects in other departments of the University of nineteen units. For students who may bring advanced credit in drawing, shop work, chemistry, and other subjects, the amount of possible elective may be considerably increased.

A. General Survey of Engineering Industries.—Special lectures and assigned topics. Required of first-year students.

By arrangement 1 unit, each semester

1-8. Shop Work:—

1a. Forge Practice.—(2 exercises a week, half year.)

1b. Lecture in Forge Work.—

3a. Foundry Practice.—(2 exercises a week, half year.)

3b. Lecture in Foundry Work.—

5. Woodworking.—(2 exercises a week, half year.)

6a. Pattern Shop Practice.—(2 exercises a week, half year.)

6b. Lecture in Pattern Shop Work.—

Courses *3a* and *3b* are prerequisite to courses *6a* and *6b*.

7a. Elementary Machine Shop Practice.—(2 hours a week, half year.)

7b. Lecture in Machine Shop Work.—

Courses *1a* and *1b* are prerequisite to courses *7a* and *7b*.

8. Advanced Machine Shop Practice.—(3 hours a week, half year.)

Courses 1-8 are open to all students, and required of students in Mechanical Engineering. 2 or 3 units, each semester

(Lesley, Stanley, Liggett, Palmateer, Harcourt)

10. Shop Administration.—A course of lectures on workshop organization and administration, factory accounting, wage systems, selection of machinery, factory methods, etc. Prerequisites: courses 1 to 7 inclusive. [Not given in 1913-14.] 3 units, 2d semester (Lesley)

11. Elementary Machine Drawing.—Practice in making freehand sketches of machine parts from which working drawings, tracings, and blueprints are developed. (Six or nine hours a week in drafting-room.) Prerequisite: course *1a* in Engineering, and first semester's work in Engineering *1b* or its equivalent.

(I) TTh 9:15-12:15; (II) MT 1:30-4:30

2 or 3 units, either semester (Cutter)

13. Elementary Machine Design.

a. Function of machines; motion, force, and work in machines; valve gears. (Three hours a week lectures and recitations, second semester.) 3 units

b. Drafting course applying the principles treated in *a*. (Six hours a week drafting, second semester.) 2 units

Prerequisites: course 11 in Mechanical Engineering and course 1*b* in Engineering. Courses *a* and *b* must be taken together and are required of students in Mechanical Engineering.

Lec. MWF 8:15; Drafting M or T or F 1:30-4:30

5 units, 2d semester (G. H. Marx)

14. Machine Design.—Study of machine details, such as bolts and screws; riveted joints and boiler design; keys, fits and fitting; axles, shafts, and spindles; journals, bearings, and lubrication; ball and roller bearings; sliding surfaces; couplings and clutches; gear, belt, rope, and chain transmission systems; flywheels; springs; frames, and supports; etc. (Two hours a week recitation and lectures, six hours in the drafting-room, throughout the year.) Open to students who have completed course 13 in Mechanical Engineering, and who are taking course 2 in Engineering; required of students in Mechanical Engineering.

(1st sem.) Lec. MW 10:15; Dft. MT 1:30-4:30

(2d sem.) Lec. TTh 8:15; Dft. MW 9:15-12:15

4 units, both semesters (G. H. Marx)

15. Machine Design.—An abridged treatment of the field covered in courses 13 and 14. (Three hours a week recitations and lectures, six hours a week in the drafting-room, first semester.) Open to students who have completed Engineering 1*b*, Mechanical Engineering 11, and are taking Engineering 2. Intended for Engineering students whose major subject is not Mechanical Engineering.

Lec. MWF 8:15; Dft. ThF 1:30-4:30

5 units, 1st semester (G. H. Marx)

16. Advanced Machine Design.—Design of complete machines. Students may elect machine tools, cranes, steam or gas engines, or special problems. (One lecture and six hours drafting per week.) Intended for fifth-year students who have completed courses 14, 32, and 33. 3 units, both semesters (G. H. Marx, Cutter)

Lec. F 10:15; Dft. 1:30-4:30, by arrangement

21-30. Experimental Engineering.

21. Calibration and Use of Engineering Apparatus and Instruments,

including gages, thermometers, planimeters, indicators, dynamometers, fuel calorimeters, and the testing of lubricating oils. (One lecture, three hours in the laboratory, and five hours on reports, per week.) Required of fourth-year students in Mechanical Engineering.

Lec. Th 10:15; Lab. 1:30-4:30, by arrangement

3 units, 1st semester (ECKART, CROSS)

22. Testing of Steam Engines and Boilers, including determination of engine clearance; steam calorimetry; valve setting; mechanical efficiency, economy, and complete tests of simple and compound engines, steam turbines, gas engines; tests for speed regulation, and the testing of boilers. (One lecture, three hours in the laboratory, and five hours on reports, per week.) Open to students who have completed courses 21 and 32. Required of fourth-year students in Mechanical Engineering. 3 units, 2d semester (ECKART, CROSS, CAMPBELL)

Lec. T 10:15; Lab. 1:30-4:30, by arrangement

23. Testing of Pumping Machinery and Power Plant Auxiliaries, including steam and centrifugal pumps, hot-air pumping engines, injectors, heaters and economizers, blowers, condensers, refrigerating machinery, and a complete power-plant test. (One lecture, three hours laboratory, and five hours on reports per week.) Open to students who have completed courses 21 and 22. Required of fifth-year students in Mechanical Engineering.

Lec. T 9:15; Lab. 1:30-4:30, by arrangement

3 units, 1st semester (ECKART, CROSS, CAMPBELL)

24. An Abridged Course in Experimental Engineering, intended for Civil Engineering, Geology and Mining, and Chemical Engineering students. Includes the calibration of apparatus, testing of steam and gas engines, steam turbines, boilers, etc. (One lecture, three hours in the laboratory, and eight hours on reports, every two weeks.) Open to students who have completed course 32.

Lec. T 9:15 2 units, 2d semester (ECKART, CROSS, CAMPBELL)

26. Testing of Hydraulic Machinery.—Including tangential water wheels, turbines, rams, centrifugal, rotary, jet, and steam pumps, and the investigation of surges in pipe lines, etc. (One lecture, three laboratory hours, and eight hours on computations, reports, etc., every two weeks.) Open to students who have taken Engineering 3*b* and Mechanical Engineering 21, 22, or 24.

Lec. Th 8:15 (alternate weeks); Lab. 1:30-4:30, by arrangement

2 units 2d semester (ECKART, CROSS)

30. An Advanced Course in the Investigation of Engineering Problems. Open to all students who have completed courses 21, 22, and 23.

1 to 5 units, both semesters (ECKART, CROSS)

31. Engineering Reports and Specifications.—Practice writing, with occasional lectures. Required of third-year students in Mechanical Engineering.

1 unit, each semester, as assigned

32. Heat Engines.—Mechanical theory of heat and its applications. (Two lectures and three hours' office work per week.) Required of fourth-year students in Mechanical Engineering.

TTh 9:15-12:15 3 units, 1st semester (DURAND)

33. Heat Engines.—Continuation and application of course 31. (Two lectures and three hours' office work per week.) Required of fourth-year students in Mechanical Engineering. Lecture and office work as for 31.

TTh 9:15-12:15 3 units, 2d semester (DURAND)

34. Thermodynamics.—A course in theoretical thermodynamics, with special reference to heat engines, and intended to supplement course 31, which is a prerequisite. Required of fifth-year students in Mechanical Engineering.

M 8:15 1 unit, 2d semester (DURAND)

35. The Mechanical Engineering of Central Power Stations.—Lectures. Prerequisite, course 31.

MW 10:15 2 units, 1st semester (DURAND)

35b. Hydraulic Power Stations.—A discussion of the principles which enter into the design of hydraulic power stations: general control of water in tunnels and penstocks, surge chamber control of surges and shocks, valves and regulating devices, penstocks and their installation, selection of units, characteristics of impulse and reaction types, speed regulation, installation tests, and special problems. Open to students who have completed Engineering *3a*.

Lec. TTh 11:15 (DURAND)

36. Pumping Machinery.—A lecture course for fifth-year students. Prerequisite: course 31, first semester.

TTh 10:15 2 units, 2d semester (DURAND)

37. Seminary.—A weekly conference for the discussion of current engineering literature and of special topics. Open to senior and advanced students only.

By arrangement 1 to 2 units, both semesters (DURAND)

LABORATORY FEES.—Courses *1a*, *3a*, *7a*, $4 per credit hour; courses 5, *6a*, $3 per credit hour; course 8, $2 per credit hour; courses 21, 22, 23, 24, $6; courses 26 and 30, $2 per credit hour.

III. ELECTRICAL ENGINEERING

HARRIS JOSEPH RYAN, Professor.
JAMES CAMERON CLARK, Assistant Professor.
†AXEL NIELSON, JOHN WILLIAMS DAVIS, Instructors.
NORMAN JEROME MITTENTHAL, CARL EUGENE SCHOLZ, HERBERT JOSEPH SCHOLZ, Undergraduate Assistants.

A five-year curriculum is arranged for students who will be graduated with the degree of Engineer in Electrical Engineering. The courses taken up during the first four years are identical in Mechanical and Electrical Engineering; both classes are registered in the Mechanical Engineering department. Students successfully completing this portion of the curriculum will be graduated with the degree of Bachelor of Arts. While pursuing courses scheduled for the fifth year of the Electrical Engineering curriculum students are registered as majors in the Electrical Engineering Department.

FIRST, SECOND, THIRD and FOURTH YEAR courses are identical with corresponding Mechanical Engineering courses.

FIFTH YEAR—Differential Equations, Hyperbolic Functions and Determinants (Applied Mathematics, 5 units); Electrical Engineering Technology (Electrical Engineering *4a*, lectures, 5 units, and *4b*, laboratory, 8 units): Photometry and Illumination (Physics *9a*, 1 unit); Alternating and Transient Current Phenomena (Electrical Engineering, 5 units); Electrophysics: Foundation of Electrotechnics (Physics, 4 units); Thesis (Electrical Engineering *T*, 6 units); Seminary (Electrical Engineering *S*, 2 units). Total, 36 units.

1. Elements of Electrical Engineering.—An abridged course in the industrial applications of electricity, intended for non-electrical engineering students. Prerequisites: first five semesters of any of the Stanford Engineering courses. 4 units, 2d semester

Lec. MWF 9:15; Lab. by arrangement (CLARK, DAVIS)

2. Electrical Energy.—Required of third-year students in Mechanical and Electrical Engineering. Class and laboratory instruction in the technology of magnetic, electric, and electrostatic phenomena, electrical machinery and auxiliaries in continuous and alternating current working. Prerequisites: Applied Mathematics 1, 2, 3; Engineering *1a*, *1b*, *2a*, *2b*; Mechanical Engineering 11, *13a*, *13b*; Physics *6a*, *6b*, *9*. *2a. Recitations.*—

(2d sem.) Rec. Th 8:15-10:15 1 unit, 2d semester (DAVIS)

2b. Laboratory Work.—

MTWTh 1:30-4:30 2 units, 2d semester (CLARK, DAVIS)

[Course 2 is supplemented by Physics 9, laboratory work in electrical measurements, 2 units, 1st semester.]

3. Electrical Engineering.—Required of fourth-year students in Mechanical Engineering. Lectures, laboratory, and class work. Prerequisites: Electrical Engineering *2a, 2b;* Engineering *3a.*

3a. Lectures.—General Practice. (1) Standardization authorized by the A. I. E. E. (2) Fire Hazard, National Electric Code. (3) Transmission Economies. (4) Standard Machinery, Auxiliaries and Structural Supplies. (5) Municipal Distribution of Electricity for Miscellaneous Service. (6) Long Distance Transmission of Power for General Purposes. (7) Discussion of Typical Installations. (8) Elements of Finance Controlling the Uses of Electricity. (9) Survey of Electrical Industries. (10) Historical and Biographical Sketches.

MTWTh 8:15 4 units, 1st semester (RYAN)

3b. Laboratory Work.—Characteristic performance of standard machinery and auxiliary apparatus; tests of machinery and auxiliaries for capacity, and acceptance.

By arrangement 2 units, 2d semester (CLARK, DAVIS)

4a. Electrical Engineering Technology.—Lecture course. Theory of characteristic performance of machinery, transformers, transmission lines, distributing systems and auxiliaries.

5 units, 2d semester (RYAN)

4b. Electrical Engineering Technology.—Laboratory course. Material tests; machinery and auxiliaries design data tests; low and high frequency high voltage phenomena and insulator tests; special meter performance tests and calibrations.

8 units, 1st semester (CLARK, NIELSEN)

5. Alternating and Transient Current Phenomena.—Steinmetz and Kennelley methods, including application of hyperbolic functions and determinants to the characteristic performance of transmission lines.

Lectures and recitations 5 units, 2d semester (NIELSEN)

10. Graduate Work.—

a. Advanced study and investigation as assigned to meet the needs of the individual.

S. Seminary.—A weekly conference for the discussion of current electrical engineering literature and of special topics.

1 unit, both semesters (RYAN)

T. Thesis.—Subjects as approved to suit the needs of the individual. 1 unit, 1st semester; 5 units, 2d semester (RYAN, CLARK, NIELSEN)

The Stanford Branch of the American Institute of Electrical Engineers is an organization authorized by the Institute and maintained by the members of the graduating class for the discussion of the Proceedings of the Institute, and of other topics as assigned, and the review of current electrical literature.

Laboratory Fees—$2 per unit of university credit.

Syllabus Fees.—Applicable to syllabus, lantern slides, and charts. $1 per course-section.

MEDICINE

RAY LYMAN WILBUR, Dean.
GEORGE BURBANK SOMERS, Secretary of the Medical Faculty.

Buildings and Equipment

The buildings in San Francisco occupy four fifty-vara lots bounded by Clay, Sacramento, and Webster streets, and consist of the Clinical and Laboratory Building, including Lane Hall; Lane Hospital, a modern building in brick and stone, with a capacity of one hundred and eighty beds; the Nurses' Home; and the Lane Medical Library. The Clinical and Laboratory Building has recently been remodeled and is devoted entirely to outpatient clinics and laboratories.

At Stanford University the buildings and laboratories of the University are used for instruction in Medicine.

Clinical Opportunities

LANE HOSPITAL

The University Hospital was designed as a teaching Hospital and built by Dr. Levi Cooper Lane. It is under the immediate control of the Clinical Committee appointed from the Medical Faculty by the President of the University with the approval of the Board of Trustees. It is a general hospital receiving both private and clinic patients, situated at Clay and Webster Streets and directly connected with the Clinical and Laboratory Building. In its clinical department there are over one hundred beds used for purposes of teaching. These are arranged into five wards, one each for Surgery, Medicine, Gynecology, Obstetrics, and Pediatrics. As the patients in these clinical beds are sent in largely from the Outpatient clinic and as they remain in the Hospital for short periods of time only, unusual opportunity is offered

for the study of selected cases. A new Surgical Pavilion, to house one hundred and sixty patients, is to be built as an addition to the present hospital building. The new central laundry is in process of construction.

Arrangements have been made with the San Francisco Society for the Study and Prevention of Tuberculosis so that the routine care of patients suffering from tuberculosis is carried out through the branch of the Medical Clinic maintained under the auspices of this organization at 1547 Jackson Street. Here students may have the opportunity of observing patients in the same manner as in the clinics held in the University buildings.

Arrangements have been made with the San Francisco Maternity and with the Fruit and Flower Mission of the Associated Charities for the care of maternity cases in the obstetrical ward of Lane Hospital, and with the Associated Charities for the care of a portion of their sick poor.

During the year 1912-13 Mrs. Emily B. Hopkins presented the Hospital with $10,000 for the endowment of a bed, Mrs. Kate Felton Elkins provided maintenance for a bed, and Mr. Felton B. Elkins gave the sum of $900 to pay the salary of an obstetrical nurse. Other friends of the Hospital have contributed freely for the care of clinical patients.

SAN FRANCISCO HOSPITAL

At the present time the Medical School controls one hundred beds in the City and County Hospital in San Francisco, averaging about a thousand patients per year. The hospital facilities will be greatly improved with the completion of the new San Francisco Hospital, which the City is erecting at an expense of two million dollars. It is expected that this hospital, which is one of the most beautiful and complete structures of its kind in America, will be occupied in 1914. Possessing separate buildings for the care of contagious diseases and of tuberculosis, in addition to the main group for general surgical and medical cases, there will be centered within the hospital grounds, convenient for teaching purposes, an abundance as well as a great variety of clinical material.

OUTPATIENT DEPARTMENT

The lower floor of the Clinical and Laboratory Building is devoted entirely to the Surgical Outpatient Clinic and its various subdivisions; the second floor to the Medical Outpatient Clinic with its subdivisions; the three upper floors contain the Pathological Museum and the labora-

tories of Experimental Medicine, Pathology, Pharmacology, and Experimental Surgery. The laboratory of Clinical Pathology and the Medical Outpatient Department are separated only by a short corridor from the clinical wards of the Hospital, so that both In- and Outpatients are equally available for teaching purposes. The front part of Lane Hall has been converted into a modern amphitheatre suitable for demonstrations. About twelve thousand new patients were received during 1912-13 with a total number of visits of over sixty-five thousand.

Hospital Interneships

Ten internes are appointed annually at the Lane Hospital. Four of these are Senior Internes and have a continuous service for one year with the option of renewal in any of the following divisions: Medicine, Surgery, or Obstetrics and Gynecology. Six Junior Internes, with an alternating service, are likewise appointed. Junior Internes are assigned in rotation to a two months' service in Psychiatry at the Napa State Hospital. Three of these are expected to become Senior Internes later. A Senior Externe is also appointed for the Eye, Ear, Nose, and Throat Department. Interneships are also available in the Stanford service at the San Francisco Hospital and at other hospitals in the City and the State.

Organization

The School of Medicine is an integral part of the University, controlled by the Board of Trustees, the President, and the Academic Council in the same manner as are other departments of the University.

The teaching body of the Medical School consists of: (*a*) The members of the Medical School Faculty, which is composed of all Professors, Clinical Professors, Associate Professors, and Associate Clinical Professors giving instruction in the courses included in the Medical curriculum or in graduate courses in Medicine either at Stanford University or in San Francisco; (*b*) Assistant Professors and Assistant Clinical Professors; (*c*) Lecturers, Instructors, Clinical Instructors, and Assistants.

'Professors' and 'Associate Professors' are members of the Medical Faculty who are under full salary and who give the main part of their time to the work of instruction. 'Clinical Professors' and 'Associate Clinical Professors' are of equal rank with Professors and Associate Professors respectively, but are engaged in practice.

The functions of the Medical Faculty and of the Executive Heads are defined under the organization of the Faculty of the University for Department Faculties and Executive Heads.

For purposes of administration the work of the Medical School is organized into Divisions as follows: Anatomy; Bacteriology and Immunity; Physiology; Chemistry; Pharmacology; Pathology; Medicine, including Pediatrics, Neurology, Psychiatry, Electrotherapy, Actinography, Dermatology and Syphilis, Jurisprudence, Dietetics, and Tropical Medicine; Surgery, including Ophthalmology, Otology, Laryngology, Rhinology, Genito-Urinary Surgery; Obstetrics and Gynecology; Hygiene and Public Health. The Executive of each Division, appointed annually by the President of the University, is the administrative officer of the Division, with duties, with respect to the Division, similar to those prescribed for Executive Heads of Departments.

The Division Faculties consist of all members of the teaching staff of the several Divisions, but only Professors, Clinical Professors, Associate Professors, and Associate Clinical Professors have the right to vote.

Library Facilities

The Lane Medical Library, founded by the Directors of Cooper Medical College, as provided by the will of Mrs. Levi Cooper Lane, comprises nearly 40,000 volumes. The most valuable historical portion was obtained from the New York Hospital, the oldest medical library in the country. Some 450 periodicals are currently received, and the numerous files of bound volumes are being completed as rapidly as possible.

A list has been made of all the books in the library and a card catalogue completed of the texts published since 1900. Cards of current medical accessions are received from the Library of Congress and from the John Crerar Library in Chicago. These, with the catalogues of the Surgeon General's Library, facilitate borrowing books from three great libraries. Loans are also made to and from the University Library at Stanford, which contains about 185,000 volumes.

The Lane Medical Library, besides the Lane endowment funds, has received numerous gifts of books and money. Dr. Adolph Barkan, Professor Emeritus of Ophthalmology, has presented the sum of $10,000 to be used for the endowment of the "Adolph Barkan Library of Ophthalmology and the Allied Sciences." The Alumni of Cooper Medical College are collecting a fund for a special library of Obstetrics and Gynecology in honor of the late Dr. Henry Gibbons, Jr., Professor of Obstetrics and Dean of Cooper Medical College.

In addition, the income of the Charles G. Lathrop fund of $5,000. the Henry Lee Dodge fund of $5,000, the J. Henry Meyer, Antoine Borel, and Edward Coleman funds of $2,500 each, and the Luther Janna Holton fund of $500, with the income from the 50 life memberships, are available for the purchase of books and periodicals and for the maintenance of the Library.

The full privileges of the Library, including the withdrawal of books, can be obtained through a life membership of one hundred dollars or a yearly membership of five dollars. The consultation and use of books in the Library is free.

The Lane Medical Library Building, erected in 1912, on the southeast corner of Sacramento and Webster streets, is a well-equipped fireproof structure of Colusa sandstone, three and a half stories high, with shelving for 60,000 volumes and space to accommodate twice that number. The reading room seats seventy, and the stacks and study rooms are provided with small tables. The west portion of the mezzanine floor is devoted to the Barkan collection on Ophthalmology. The third floor is at present left in one great room; the attic houses the duplicate collection of about 15,000 volumes, which is much used for out-of-town loans. The large reading room is decorated by three allegorical paintings by Mathews, presented by Mrs. Henrietta Zeile.

The Lane Medical Lectures

The Lane Medical Lectures, founded in 1896 by Dr. Levi Cooper Lane, are given biennially on medical subjects, and are open to medical students and to physicians. The 1913 course of lectures was given in September, on "Internal Secretion," by Sir Edward Albert Schaefer, of the University of Edinburgh.

Popular Medical Lectures

A series of free public lectures on medical and allied subjects is given each year in Lane Hall. The subjects presented in 1913-14 are listed on page 241.

Cooper Clinical Society

The Meetings of the Cooper Clinical Society, which are open to students, are held monthly during the school year in the buildings of the Medical School.

Social Service

The Auxiliary to the Stanford Clinics is an organization for the support of the social service work of the clinics of the Stanford University Medical School, for the collection of funds for the benefit of sick and

needy patients, and for the establishment of a Stanford settlement in San Francisco. It is made up of Stanford alumni, students, and friends of the University. The officers for 1913-14 are Herbert Rowell Stolz, President; John Francis English, Vice-president; Miss Dernham, Secretary; Mr. Turner, Treasurer. The officers with Mr. Louis Samuel Beedy, Rev. D. Charles Gardner, and Dr. Ray Lyman Wilbur constitute the directorate. The Auxiliary has also a large advisory board to assist in the purposes of the organization. A Social Service Worker, Mrs. Katherine I. Barnett, has been appointed to work in the clinics in conjunction with all of the existing agencies in San Francisco for the relief of the sick, especially the Associated Charities.

Regular membership is $5 per year, sustaining membership $25 per year, life membership $100.

Admission to the School of Medicine

Three years of collegiate work in Stanford University (approximately ninety unit hours), or its equivalent as accepted by the Committee on Advanced Standing, is required for admission to the School of Medicine. This preparatory training must include one year of Physics, Chemistry including Qualitative Analysis,* and Physiology or Biology, with laboratory work in each, and such a reading knowledge of French or German as shall be acceptable to the School of Medicine.

Candidates for admission to the School of Medicine, or for advanced standing in the School, are permitted to register with one condition, but the condition must be removed within one year to the satisfaction of the head of the Department or Division in which the condition was incurred.

The State Law governing the practice of Medicine in California prescribes that every person before practicing Medicine or Surgery must produce satisfactory testimonials of good moral character and a diploma issued by some legally chartered medical school approved by the Board of Medical Examiners, the requirements of which school shall have been at the time of granting such diploma in no degree less than those prescribed by the law. The main provisions of this law are that the applicants must show records of four medical courses of thirty-two weeks duration following a preliminary preparation at present of a high school course or specified equivalent, and after January 1,

*Students other than Chemistry majors preparing for medicine at Stanford University may take the combined course in quantitative and qualitative analysis (course *k* in Chemistry) instead of the full courses in these subjects (*b* and *d*).

1919, in addition, a course which includes at least one year of work of college grade in each of the subjects of Physics, Chemistry, and Biology. The specified four years' medical course includes 4,800 schedule hours, embracing the usual medical curriculum. In the course of study outlined the hours required are actual work in the class room, laboratory, or hospital, and at least eighty per cent of actual attendance is required.*

Students in any Department of the University who desire to enter upon the study of Medicine and who have included in their course of study the subjects required for admission to the Medical School, may, at the beginning of their fourth or senior year in the University, enroll as students in medicine and continue as candidates for the degree of Bachelor of Arts.

A student who, through delay in making a choice of Medicine, is unable to complete the requirements of his Major department and the first year in Medicine by the end of his senior year, may nevertheless register in Medicine and be eligible for the degree of A. B. in the Department of Physiology and Histology at the end of the eighth semester—the second semester in Medicine.

Students who have included in their course of study the subjects required for admission to the Medical School while retaining their registration in their Major Department as candidates for the degree of A. B., must also enroll in the School of Medicine during the fourth year and pay the fees of the School in order that this year may count as part of the four years' registration in Medicine as required by the law of the State and the regulations of the University.

The Seven Years' Curriculum

The combined seven years' curriculum—three years of college work and four years in medicine—lead to the degrees of Bachelor of Arts and Doctor of Medicine.

In order to conform with the major department system of the University, and to enable prospective medical students to gain a wider knowledge of some subject while meeting the requirements for admission to the School of Medicine, schedules have been arranged with the various departments enabling major students to retain registration in the respective departments while preparing for Medicine, and during the first year in Medicine.

*Candidates for licensure possessing a baccalaureate degree are not required to present certificates for Latin by the Board of Medical Examiners of the State of California at present.

Special Workers

Physicians and others who are properly qualified, but not candidates for a degree, may be admitted to work in the School of Medicine with the permission of the Dean of the School and of the Professor or Professors concerned. Such persons shall be listed as Special Workers.

The Curriculum in Medicine

The required period of study for the degree of Doctor of Medicine is four years (eight semesters). The work of the first three semesters is given at Stanford University and is devoted to anatomy, bacteriology, chemistry, embryology, histology, neurology, and physiology. The last five semesters are devoted to work in the pharmacological, pathological,. and clinical laboratories and in the hospital wards and the outpatient department in San Francisco.

Required Interne Year

Beginning with the class entering the Medical School in September, 1914, all students will be required to take a fifth practical year in Medicine before receiving the degree of Doctor of Medicine. Arrangements may be made so that this fifth year may be spent as interne in a hospital or in part as worker in a laboratory. No tuition fee is required for the interne year, and most of the interneships bring in a small salary.

Fees

The tuition fees of the Medical Department are $150 per annum, payable in installments of $75 each semester; $5 per semester for the first three semesters, covering charges for material; and such other deposits to cover breakage or loss of apparatus and materials as may be required in any department or division, these deposits being returnable, less charges for breakage, loss, or wear and tear of apparatus, or for materials used. The total deposits for this purpose may vary from $10 to $20 per annum.

All students in the Medical School are expected to supply themselves with microscopes for their own use; but the Faculty offer to those students who do not possess instruments of their own the use of a microscope for one college year, not including the summer vacation, on deposit of $10, and a rental of $3 per semester. This deposit, less the cost of necessary repairs, to be refunded on return of the microscope. (Microscopes are furnished at present in the laboratories of Physiology and Histology and in Embryology without additional expense.)

Requirements for the Degree of Doctor of Medicine

The candidate for the degree of Doctor of Medicine must, according to the laws of the State, have attained the age of twenty-one years, and have attended a medical college of recognized standing for four years. He must further have fulfilled the entrance requirements of the Medical School of Stanford University before enrolling as a medical student, have satisfactorily completed the required curriculum, passed all examinations, paid in full the required fees, and have spent the last of the four years in Medicine at the University. Licensed physicians must likewise fulfill the entrance requirements and those of the School of Medicine before receiving the degree of Doctor of Medicine from Stanford University.

Regulations Concerning Theses

A Thesis based as much as feasible upon research work will be required of each student. If not done previously, four curriculum hours of the seventh and eight semesters are to be devoted to its preparation under the supervision of one of the Divisions.

Students of Medicine may select the Division in which they desire to write their Thesis, and if properly qualified may begin work on the same at any time before the beginning of the second semester of their fourth year in Medicine. The topic for investigation or the subject matter for study shall be chosen with the advice and consent of the Executive Head of the Division concerned, and no change of subject shall be made without the consent of the Executive under whose direction the work was begun.

Thesis may be based wholly or partly upon: (*a*) An original investigation or the re-investigation of published work. (*b*) The construction of original models and preparations; the designing or construction of new appliances or apparatus or the description and application of new and improved technical methods. (*c*) The compilation and analysis of a series of cases or observations. (*d*) An historical investigation or a critical review of some subject.

The names of students and the subjects for theses shall be reported to the Dean of the School of Medicine by the Executive Heads of Divisions before December first of the student's fourth year in Medicine.

The Executive Head of the Division in which the thesis work is done, and two members of the teaching staff to be appointed by the Dean of the School of Medicine, shall constitute a committee to examine and pass upon theses offered for graduation, but in no case shall a thesis be accepted which has not been approved by the Execu-

tive Head of the Division concerned or which in his estimation represents less than one hundred and twenty hours of work.

If credit given for theses is counted for the baccalaureate or other degrees it shall not be counted a second time nor shall the candidate be excused from thesis work in Medicine.

Completed theses must be typewritten upon standard paper and delivered to the supervising executive, not later than thirty days before the date of Commencement.

Any thesis of special merit may, by vote of the Faculty of the School of Medicine, be recommended for publication and binding upon the condition that four copies be deposited with the Librarian of the Leland Stanford Junior University, two of which shall be sent to the Lane Medical Library. Such publication shall not preclude the previous publication of the thesis by the Divisions concerned, but four copies must be deposited with the Librarian of the University as above specified.

All apparatus and appliances, models and preparations shall be the property of the Leland Stanford Junior University, and as such shall remain in charge of the Division under the direction of which they were prepared.

Advanced Degrees in the Medical School

The Divisions of the Medical School are considered as equivalent to other departments of the University in respect to candidacy and requirements for the degrees of Master of Arts and Doctor of Philosophy, and all University regulations apply to these divisions and division faculties as to departments and department faculties, with the following modifications and limitations.

1. Candidates for these degrees must have received the degree of A. B. at Stanford or an equivalent degree elsewhere, and must have completed all requirements for admission to the Department of Medicine, and such other requirements as each division faculty may prescribe.

2. Time spent in candidacy for the degree of Master of Arts or Doctor of Philosophy will not be counted toward the degree of Doctor of Medicine.

3. Candidates for these degrees in the divisions of Medicine, Surgery, and Obstetrics and Gynecology, must have received the degree of Doctor of Medicine.

The Coffin Research Fund

The Coffin Research Fund for the study of Tropical Diseases has been established by Mr. C. A. Coffin, of New York, in the hope that it will stimulate a thorough study of this problem on the Pacific Coast.

The Alumni Jordan Medical Scholarships

A number of Stanford men have undertaken to provide a loan fund for deserving students, to be known as the Alumni Jordan Medical Scholarship Fund. Applicants for this fund must be recommended by the Faculty.

THE CURRICULUM

First Semester	Lec. hours	Lab. hours	Units of credit
Neurology—Gross and Minute Anatomy of the Brain and Spinal Cord	1	5	3
Histology	1	5	3
Gross Anatomy	1	9	4–5
Physiology—Muscle and digestion	2	5	4
Embryology		6	2
	5	29	16–17
Second Semester			
Histology	1	5	3
Gross Anatomy	2	8	4–5
Physiology—Blood and circulation, respiration, nutrition, metabolism, nervous system, sense organs	2	10	6
Organic Chemistry	3		3
	8	23	16–17
Third Semester (First Semester of Second Year)			
Bacteriology	2	7	5
Gross Anatomy	2	9	5
Physiological Chemistry	3	9	6
	7	25	16

Fourth Semester (Second Semester of Second Year)

	Hours per week
Medicine	7
Clinical Pathology	3
Physical Therapeutics	2
Pharmacology and Materia Medica	6
Surgery	6½
Pathology	9½
	34

Fifth Semester (First Semester of Third Year)

Medicine	9
Clinical Pathology and Experimental Medicine	2½
Neurology	1
Pediatrics	2
Pharmacology and Materia Medica	3
Surgery	8
Surgical Pathology	2
Obstetrics	3
Pathology	4
	34½

Sixth Semester (Second Semester of Third Year)

Medicine	5
Clinical Pathology and Experimental Medicine	2½
Neurology	2
Pediatrics	5
Surgery	6
Surgical Pathology	2
Obstetrics	3
Pathology	4
	29½

Seventh Semester (First Semester of Fourth Year)

Medicine	5
Pediatrics	2
Dermatology	1½
Legal Medicine	1
X-Ray	1
Psychiatry	1
Surgery	3
Orthopedic Surgery	2
Genito-Urinary Surgery	3
Eye, Ear, Nose, and Throat	4
Gynecology	3
Hygiene	1
Thesis	4
	31½

EIGHTH SEMESTER (Second Semester of Fourth Year)

Medicine	6
Neurology	2
Dermatology	1½
History of Medicine	1
Dietetics	1
Surgery	4
Eye, Ear, Nose, and Throat	4
Gynecology	3
Hygiene	1
Thesis	4
	27½

SCHEDULE OF HOURS

The following is a summary of the time occupied by the several Divisions in required work, based on semesters of sixteen weeks of actual instruction (Classification of the Association of American Medical Colleges).

DIVISION I—ANATOMY

	Hours	
Gross Anatomy	496	
Neurology	96	
Histology	192	
Embryology	96	
		880

DIVISION II—PHYSIOLOGY AND CHEMISTRY

Inorganic Chemistry—approximately 256 hours required for entrance.		
Organic Chemistry	48	
Physiological Chemistry	192	
		240
Physiology	304	
		544

DIVISION III—PATHOLOGY, BACTERIOLOGY, AND HYGIENE

Bacteriology	144	
Hygiene and General Dietetics	48	
Pathology	280	
		472

DIVISION IV—PHARMACOLOGY, MATERIA MEDICA, AND THERAPEUTICS

Pharmacology, Materia Medica, Prescription-writing	184	
Therapeutics	32	
		216

DIVISION V—MEDICINE AND MEDICAL SPECIALTIES

General Medicine	616	
Therapeutics	40	
Pediatrics	144	
Nervous and Mental Diseases	96	
Dermatology and Syphilis	48	
Jurisprudence, History of Medicine, Journal Club	32	
		976

DIVISION VI—SURGERY AND SURGICAL SPECIALTIES

General Surgery	504	
Orthopedic Surgery	32	
Genito-Urinary Surgery	48	
Ophthalmology	64	
Otology, Rhinology, and Laryngology	64	
		712

DIVISION VII—OBSTETRICS AND GYNECOLOGY

Obstetrics	168	
Gynecology	96	
		264
Thesis in one of the Divisions		128
Total		4202

I. DIVISION OF ANATOMY

ARTHUR WILLIAM MEYER, Professor.
EDGAR DAVIDSON CONGDON, Assistant Professor.
ERNEST RISLING, Technical Assistant.

HUMAN ANATOMY

1. **Osteology.**—Students will be expected to familiarize themselves thoroughly on their own initiative with the surface anatomy of the bones of the skeleton. The laboratory work will be supplemented

by recitations and lectures dealing with the internal architecture, the development, growth, and regeneration of typical bones, their nutrition and innervation, the mechanics of the skeleton as a whole, and the changes it undergoes from birth to old age.

2 to 3 units, 1st semeter (MEYER, CONGDON)

2-3-4. Dissection of (2) the Head, Neck, and Thorax; (3) the Upper Extremity; (4) the Abdomen and Lower Extremity.—These courses are given simultaneously throughout the year and can be begun at any time. No one will be assigned to less than one of the above parts nor will credit be given for less, save by special arrangement.

2 to 5 or more units (MEYER, CONGDON)

OPTIONAL AND ADVANCED COURSES

5. Topographical Anatomy.—The work consists of laboratory study of frozen sections of the cadaver, made in various planes, and of dissected and specially injected preparations. It is suggested that students who can afford the time supplement courses 2, 3, and 4 by the respective portions of course 7 immediately on completing the dissection of a part. Open to students who have completed courses 1, 2, 3, and 4. Third semester, by arrangement. (MEYER)

6. Human Embryology.—This course will be offered as soon as adequate provision can be made. Course 11 in the Department of Zoology is a prerequisite. Elective.

7. Conferences on Assigned Topics.—One hour a week per group will be devoted to a discussion of various anatomical problems and obscure relations by those who are dissecting or have dissected a given part. Second semester. Optional. (MEYER)

The facilities of the laboratory are always at the disposal of properly qualified students or physicians who desire to undertake the investigation of some problem in gross or microscopic anatomy or in embryology.

DEPOSIT FEES.—A deposit of $10, to cover damage to or loss of bones, is required of all students in Anatomy. This sum, less charges for damage or loss, is returnable at the close of the year. Students of Anatomy who are not registered medical students are charged a fee of $15 for courses 2, 3, and 4, and $5 for course 1.

Embryology.—Development of the chick through the first three days of incubation. [Course 11 in the Department of Zoology.]

2 units, 1st semester. (PRICE)

II. DIVISION OF BACTERIOLOGY AND IMMUNITY

Wilfred Hamilton Manwaring, Professor.
Harry Johnson Sears, Instructor.
Marcus Claude Terry, Assistant in Protozoology.
Russell Van Arsdale Lee, [1]Arthur Richard Meinhard, Undergraduate Assistants.
[2]Harry Carson Coe, [2]William Homer Moore, [1]Charles Richter, Janitorial Assistants.

1. **General Bacteriology.**—An introductory course in non-pathogenic and pathogenic bacteriology, designed primarily for students of general biology, physiology, industrial chemistry, and domestic science. Medical students wishing to begin bacteriological work earlier than the third (medical) semester, may take this course, following it by course 2. Open to third-year students who have completed 6 units work in biological science and Chemistry 1*a*. (Chemistry 3 is a desirable preliminary.) 5 units, 2d semester

Lec. Lab. MWF 9:15-12:15 (Sears, Terry, Manwaring)

2. **Medical Bacteriology.**—A study of the pathogenic microorganisms of importance in human medicine. Courses 1 and 2 together fill the medical requirement. Prerequisites: Physiology 2, 3, 9, Chemistry 3, and course 1. (Chemistry 11, *g* is a desirable preliminary.)

3 units, 1st semester

Lec. Lab. MWF 9:15-11:15 (Manwaring, Sears, Terry)

2*a*. A course in pathogenic bacteriology, not requiring course 1 as a preliminary. This is the minimum course filling the medical requirement. Prerequisites: Physiology 2, 3, 9, and Chemistry 3.

5 units, 1st semester

Lec. Lab. MWF 8:15-10:15 (Manwaring, Sears, Terry)

2*b*. *Animal Parasites and Insect Carriers.*—Lectures, parallel with course 2, on the principal animal parasites and insect carriers of importance in human medicine. (Entomology 2 is a desirable preliminary.)

Lec. T 10:15-11:15 1 unit, 1st semester (Heath, Doane)

3. **Industrial Bacteriology.**—A study of the non-pathogenic microorganisms of importance in the chemical industries. Prerequisites: Chemistry 3, *c*, *d*, 11, *g*, and course 1. (Botany 2, 3, 7 are desirable preliminaries.) By arrangement.

3 units, 1st semester (Manwaring, Sears)

4. **Introduction to Immunity.**—The physiological responses of the

human body to infectious agents. An introduction to serum diagnosis, serum therapeutics and vaccine therapy. The lectures are designed to accompany courses 2 and *2a*; the laboratory exercises must be preceded by course 1 or *2a*.

a. Lec. TTh 11:15-12:15 2 units, 1st semester

b. Lab. TTh 8:15-11-15

3 units, both semesters, or 6 units, either semester (MANWARING)

5. **Hygienic Laboratory Methods.**—Bacteriological examination of air, milk, water, and sewage, standardization of antiseptics, etc. Should be accompanied by Chemistry *x* (sanitary water analysis). Prerequisite, course 1 or *2a*. By arrangement.

3 units, either semester (MANWARING, SEARS)

5*a*. *Municipal and State Control of Infectious Agents.*—Quarantine, inspection, isolation, disinfection, etc. For non-medical students. Prerequisite, course 1 or *2a*. (Economics 13 is a desirable preliminary.)

Lec. Th 10:15-11:15 1 unit, 1st semester (TERRY)

6. **Aseptic Technique.**—Methods of preventing and controlling infections during physiological and surgical operations. A laboratory course designed primarily for non-medical students preparing for experimental work on animals. Prerequisite, course 2 or *2a*.

Lab. S 9:15-12:15 1 unit, 2d semester (MANWARING)

7. **Seminary, Journal Club.**—By arrangement.

1 unit, both semesters (MANWARING, SEARS)

8. **Advanced Work, Medical Thesis, Research.**—By arrangement.

5 units, both semesters (MANWARING)

III. DIVISION OF CHEMISTRY

JOHN MAXSON STILLMAN, ROBERT ECKLES SWAIN, Professors.
EDWARD REGINALD HARDING, Assistant.

1. **Organic Chemistry.**—A lecture course embracing a study of the classification, structural formulae, and properties of the more important compounds of carbon. The chemical relationships of the larger groups of organic compounds, alcohols, aldehydes, and ketones, acids, amines, and the halogen, sulphur, and nitrogen compounds will be emphasized, special attention being given throughout the course to those compounds which are of physiological and pathological interest. [A condensation of course 3 in the Department of Chemistry.]

3 units, 2d semester (SWAIN)

2. **Toxicology.**—A laboratory course, accompanied by informal lectures, dealing with the more important poisons, their physiological action and the prominent reactions employed in their identification.

A search for the common poisons, based on a systematic scheme of analysis, will be made on artificially prepared materials. Students who have had no previous training in quantitative analysis will be given a preliminary course in volumetric and gravimetric analysis. Optional. 3 afternoons, 2d semester (SWAIN)

3. **Physiological Chemistry.**—A laboratory course including a preliminary study of the proteins, carbohydrates, and fats, and the action of the various digestive fluids upon them, followed by a chemical examination of the bile, blood, milk, the chief tissues of the animal body, and the excretions. 3 afternoons, 3d semester (SWAIN)

4. **Physiological Chemistry.**—Lectures on the chemical composition and action of the tissues and secretions of the animal body, the digestion of foods, and the elimination of waste products. [Course 11 in the Department of Chemistry. See p.——]

3 units, 3d semester (SWAIN)

[Students enrolled as Medical students will be required to deposit $10 breakage fee for the laboratory courses in Toxicology and Physiological Chemistry. Other University students will pay the usual fee of $25.]

IV. DIVISION OF HYGIENE AND PUBLIC HEALTH

†WILLIAM FREEMAN SNOW, Clinical Professor.
RICHARD G. BRODRICK, Assistant Clinical Professor.

1. **Hygiene.**—This course is divided as follows:

(*a*) Required reading, covering the usual information essential to an understanding of the principles of public health and hygiene;

(*b*) Lectures on organized public health work, covering the administration of federal, state, and local health departments (1st semester);

(*c*) Lectures on Medical Sociology, covering the activities of various types of welfare organizations (2d semester).

The practicing physician's duties and opportunities in the field of preventive medicine are emphasized and illustrated by field trips to quarantine stations and health departments.

1 hour, 7th and 8th semesters (SNOW, BRODRICK)

2. **Public Health.**—Research work for graduates, or for students registered as candidates for advanced degrees in the Medical Department, may be arranged in connection with investigations of the State Board of Health and the San Francisco Health Department. (SNOW, BRODRICK)

V. DIVISION OF MEDICINE

Ray Lyman Wilbur (executive), Joseph Oakland Hirschfelder (emeritus), Professors.

William Fitch Cheney, Langley Porter, Arthur William Hoisholt, Clinical Professors.

Thomas Addis, Associate Professor.

Harry Everett Alderson, Harold Phillips Hill, Associate Clinical Professors.

Ernest Charles Dickson, Walter Whitney Boardman, Assistant Professors.

Walter Frank Schaller, Henry Herbert Yerington, Assistant Clinical Professors.

Morton Raymond Gibbons, William Redwood Price Clark, Florence Mabel Holsclaw, Arthur Aloysius O'Neill, Julian Mast Wolfsohn, Clinical Instructors.

Harry R. Oliver, Serologist, Lane Hospital.

Peter Harrison Luttrell, Senior Assistant.

Howard Felix Adler, Edgar Orner Campbell, James Root Dillon, Herbert Gunn, George Joyce Hall, Anthony Huffaker, George Dunlap Lyman, Lewis Durant Mead, Chester Durbin Sewall, Kenneth Jamison Staniford, Roland Beatty Tupper, Assistants.

Subdivisons

PEDIATRICS	JURISPRUDENCE	ACTINOGRAPHY
NEUROLOGY	DERMATOLOGY AND SYPHILIS	TROPICAL MEDICINE
PSYCHIATRY	ELECTROTHERAPY	DIETETICS

The instruction in Medicine begins in San Francisco in the fourth semester, with practical work in Physical Diagnosis, with lectures and demonstrations in Physical Therapeutics, and with recitations in Medicine and laboratory work in Clinical Pathology. In the fifth and sixth semesters the general field of Medicine is covered by means of clinics, practical demonstrations, bedside instruction and clinical laboratory work. As far as feasible theoretical and didactic teaching is made secondary to demonstrations and individual work on the part of students. Four hours of the required work in Medicine may be taken in bedside instruction or in advanced work in the subdivisions of Neurology, Dermatology and Syphilis, or Pediatrics. During either the seventh or eighth semesters the student will, in the mornings, attend the clinics at the San Francisco Hospital. Therapeutics will be taught in immediate connection with Medicine.

1. **Physical Diagnosis and Introduction to Medicine.**—This course lays the foundation for the work in Medicine, and consists largely of practical instruction in the methods of physical diagnosis and in history taking, and in work upon the principles of medicine.

7 hours, 4th semester (WILBUR, ADDIS, BOARDMAN, DICKSON)

2. **Clinical Pathology.**—A laboratory period of three hours per week, with some lectures, in microscopical and clinical diagnosis, including the methods of examining blood, urine, sputum, gastric contents, feces, etc. 3 hours, 4th semester (ADDIS)

3. **Physical Therapeutics.**—In this course is given a practical discussion, with demonstrations, of various methods aside from drugs, for the treatment of disease, with particular reference to the physiological problems involved. Hydrotherapy, Balneotherapy, Climatology, Electrotherapy, Bier's Hyperaemia, Gymnastics, and Massage are considered. The technique of venesection, hypodermoclysis, transfusion, etc., is demonstrated.

2 hours, 4th semester (WILBUR, ADDIS, BOARDMAN, DICKSON)

4. **Experimental Medicine and Clinical Pathology.**—Throughout a year the third-year class spends two and a half hours per week in laboratory work in Experimental Medicine with demonstrations of pathological physiology, and in advanced Clinical Pathology.

2½ hours, 5th and 6th semesters
(ADDIS, WILBUR, BOARDMAN, DICKSON)

5. **Medicine: Section Work and Clinics.**—Four mornings per week two hours are spent by students in the outpatient department or wards in practical medical work and in attending clinics and recitations.

8 hours, 5th semester
(WILBUR, CHENEY, ADDIS, BOARDMAN, DICKSON)

6. **Medicine: Clinics.**—Four hours per week of bedside instruction in the wards of Lane Hospital.

4 hours, 6th semester (WILBUR, CHENEY, ADDIS, BOARDMAN)

7. **Medicine: Set Clinic.**—Once a week a set clinic for the third- and fourth-year students is given at Lane Hospital.

1 hour, 5th, 6th, 7th, or 8th semesters (WILBUR)

8. **Medicine: Ward Work (Lane Hospital).**—This consists of four hours per week of bedside work in Lane Hospital. [The senior class is divided into two sections. Section I is assigned to Lane Hospital for the 7th semester, and Section II for the 8th semester.] Instead

of this course four hours in Medicine 11, 15, 21, 24 may be taken at the option of the student.

4 hours, 7th or 8th semesters (WILBUR)

9. Medicine: Ward Work and Clinics (San Francisco Hospital).—Five hours are given to bedside instruction and there is a set Medical clinic on Saturday forenoon. [The senior class is divided into two sections. Section II is assigned to the San Francisco Hospital for the mornings of the 7th semester, Section I for the 8th semester.]

6 hours, 7th or 8th semesters (HILL)

10. Actinography.—Practical instruction in the Roentgen-Ray laboratory of Lane Hospital including Radio-Therapy and plate interpretation.

(I) 1 hour, 7th semester; (II) 1 hour, 8th semester (BOARDMAN)

11. Actinography.—Advanced course upon the technique of Roentgen-Ray examinations, with a clinical study of patients from the standpoint of X-Ray examinations.

2 hours, 7th or 8th semester (optional) (BOARDMAN)

12. Diseases of the Nervous System.—Recitations and demonstrations in the outpatient clinic.

1 hour, 5th semester (SCHALLER)

13. Neurology.—Recitations and clinical work in Lane Hospital and the outpatient department.

2 hours, 6th semester (SCHALLER)

14. Neurology (San Francisco Hospital).—Two hours per week are assigned for the clinical study of the neurological cases in the Stanford wards at this hospital.

(I) 2 hours, 7th semester; (II) 2 hours, 8th semester (WOLFSOHN)

15. Neurology.—Advanced work in the outpatient department, laboratory and hospitals, for students who have had courses 12 and 13 or their equivalent. Optional.

2 to 4 hours, MWTh mornings (SCHALLER)

16. Psychiatry.—A weekly lecture and clinic upon Mental Diseases.

1 hour, 7th semester (HOISHOLT)

17. Psychiatry.—Advanced lectures and clinics upon Mental Diseases. Optional.

1 hour, 8th semester (HOISHOLT)

18. Pediatrics.—Recitation and clinical work in the outpatient department. 2 hours, 5th semester (PORTER, YERINGTON)

19. **Pediatrics.**—Recitations covering the general field of Pediatrics, and clinical work in the outpatient department and in Lane Hospital.
5 hours, 6th semester (PORTER, YERINGTON)

20. **Pediatrics.**—Clinical work in Lane Hospital.
2 hours, 7th semester (PORTER)

21. **Pediatrics.**—Advanced work in the outpatient clinic and in Lane Hospital. Optional.
2 to 6 hours, MWTh mornings (PORTER, YERINGTON, HOLSCLAW)

22. **Dermatology and Syphilis.**—A weekly clinical demonstration in Lane Hospital or the outpatient department, with a study of the Histopathology of the skin.
1½ hours, 7th semester (ALDERSON)

23. **Dermatology and Syphilis.**—A clinic once a week, with demonstrations upon diseases of the skin.
1½ hours, 8th semester (ALDERSON)

24. **Dermatology and Syphilis.**—An advanced course for seniors and physicians. Optional.
2 to 6 hours, 7th or 8th semesters (ALDERSON)

25. **History of Medicine.**—In association with other Divisions a weekly lecture or recitation will be held. The aim will be to have each Division present that portion of the history of medicine in which it is most interested. The students will be assigned a certain amount of journal and other preparatory work. 1 hour, 8th semester
(OPHÜLS, STILLMAN, SPALDING, SNOW, WILBUR)

26. **Dietetics.**—A recitation and lecture course of one hour per week.
1 hour, 8th semester (WILBUR)

27. **Jurisprudence.**—The instruction in this course will be divided among the various Divisions, each one covering the points most essential to it. During 1913-14 lectures in this course were delivered by Professors CATHCART, HOHFELD, KIRKWOOD, and MCCLAIN of the Stanford Law Department.
1 hour, 7th semester (DICKSON)

28. **Metabolism.**—A course for senior students and others with equal preparation, in the practical study of metabolism. Optional.
4 to 8 hours, 7th semester (ADDIS)

29. **Experimental Medicine.**—Well equipped laboratories for medical research are available to capable students. The facilities of the wards and the dispensary may be used in association with the work. Optional.
(WILBUR, ADDIS, DICKSON)

30. A Special Course will be offered to well trained physicians in the laboratories and the dispensaries and hospitals. Such students may register for advanced degrees, or as "Special Workers."
(WILBUR, ADDIS, DICKSON)

Courses 1 to 7, 9, 10, 12, 13, 14, 16, 18, 19, 20, 22, 23, 25, 26, and 27 are required of all candidates for the degree of Doctor of Medicine. In addition four hours are required in any of the following courses: 8, 11, 15, 17, 21, 24, 28.

VI. DIVISION OF OBSTETRICS AND GYNECOLOGY

ALFRED BAKER SPALDING, Professor.
GEORGE BURBANK SOMERS, Clinical Professor of Gynecology.
HENRY WALTER GIBBONS, CHESTER BIVEN MOORE, Clinical Instructors.
FRANK PIXLEY TOPPING, SHADWORTH OLDHAM BEASLEY, Senior Assistants.
HERBERT S. ANDERSON, MILLICENT COSGRAVE, LEWIS MICHELSON, FREDERICK W. KROLL, Assistants.

[Through arrangements with the San Francisco Maternity and the Associated Charities the number of confinements in the obstetrical service of the Woman's Clinic available for student instruction now averages over three hundred annually. There is also an obstetrical service at the San Francisco Hospital. During the year 1913-14 members of the senior class individually attended an average of thirteen confinements each.]

1. Obstetrics, Recitations, Demonstrations, and Manikin Exercises.—The general principles of Obstetrics are considered in this course. Two hours a week are devoted to recitations. These hours are alternated with one hour a week which is devoted to the presentation of pathological specimens, clinical conferences, and exercises in obstetrical examination and operative procedures on the manikin. [During the year 1913-14 the third-year class took courses 1 and 3 together.]
3 hours, 5th and 6th semesters (SPALDING)

2. Practical Obstetrics.—For periods of two weeks, the Senior student is detailed for his entire time as assistant to the Obstetrical interne. During this period he takes histories, examines ante-partum and post-partum patients, attends outpatients in labor, assists the interne with ward patients in labor, witnesses operations, makes daily rounds of the Hospital cases, makes milk mixtures under supervision

in the milk laboratory, and visits the home patients during the puerperal period. 4 hours, 7th semester (SPALDING, MOORE)

3. Gynecology.—Recitations. Particular attention is devoted to the subjects of pathology and diagnosis. Recitations are interspersed with demonstrations on manikins, models, pathological specimens, and microscopic slides and clinical conferences for the study of the more common gynecological ailments.

1 hour, 7th and 8th semesters (SPALDING, SOMERS, GIBBONS)

4. Practical Gynecology.—In this course instruction in history taking, pelvic examinations, cystoscopic examinations, and non-operative treatment in the dispensary is alternated with instruction in operating room technique, assisting in minor operations, and examination of ward patients before and after operation.

2 hours, 7th and 8th semesters (SPALDING, GIBBONS)

5. Clinical and Laboratory Courses for Graduates will be arranged on application.

VII. DIVISION OF PATHOLOGY

WILLIAM OPHÜLS, Professor.
RALPH HERMAN MAJOR, Instructor.
[1]EDGAR DALE DOWNING, [2]ARCHIBALD A. ATKINSON, Assistants.
M. B. POST, B. ROMERO, Technical Assistants.

1. General Pathology.—A course of lectures, demonstrations, and laboratory work which, following a general introduction into the field of Pathology, covers the relation of the general properties of living protoplasm to pathological conditions, disturbances in circulation, regressive and progressive tissue changes, inflammation, and tumors. The study of human material will be supplemented by experiments.

2 lectures and 3 laboratory periods of 2½ hours per week, 4th semester (OPHÜLS)

2. General Pathology.—An elective course of weekly recitations covering the same ground as course 1. Elective.

1 hour per week, 4th semester (MAJOR)

3. Special Pathology.—A course of demonstrations of fresh and preserved, gross and microscopic specimens illustrating selected chapters of Gross Morbid Anatomy. Part of the time will be devoted to the technique of post-mortem examinations. Diagnostic work will be done in the 6th semester.

4 hours per week, 5th and 6th semesters (OPHÜLS)

4. Advanced Work in Special Pathology.—An elective course in Special Pathology is offered to students who have taken course 1. Students taking this course will assist at necropsies whenever possible. They are required to work up the histological or bacteriological problems connected with the necropsies which they attend. For this work they will be given the facilities of the laboratory. A deposit of $5 is required to cover such material as is used by the students. Such part of this as is not drawn against will be refunded at the end of the semester. Elective.

1 laboratory period per week, hours to be arranged (OPHÜLS)

5. Research Work in the Pathological Laboratory.—Students wishing to do special work in the Pathological Laboratory should have finished course 1. They should consult with the executive of the Division in regard to the selection of a proper subject for investigation. As the laboratory accommodations are limited, students must do a reasonable amount of work, otherwise the privilege will be withdrawn. A deposit of $10 will be required to cover such material as is used by the student in the course of his work. Such part of this as is not drawn against will be refunded on the completion of the work undertaken. Work may be undertaken during the summer vacation. The same regulations apply to work on theses or for advanced degrees in the Division, except that in the latter case the student also should have finished course 3. (OPHÜLS)

VIII. DIVISION OF PHARMACOLOGY

ALBERT CORNELIUS CRAWFORD, Professor.
ZENO OSTENBERG, Assistant.
C. S. SCHWARTZ, Dispensary Assistant.

1. Pharmacology and Materia Medica.—In the course in Pharmacology emphasis is placed on laboratory work. This requires three hours weekly during the fourth semester. In this course the student performs for himself, or has demonstrated to him by the other members of the class, not only the important experiments which illustrate the fundamental principles of pharmacology, but sees one or more experiments on all of the more important drugs. The relation of the laboratory work to rational therapeutics is constantly kept in mind. The lecture course embraces two hours weekly during the fourth semester, with one weekly conference and demonstration. During the fifth semester the work consists of lectures and recitations. It is essential that all students who take this course shall have finished at

least one course in physiology and organic chemistry. In connection with the course in Pharmacology a short course in prescription writing is given. There will be in association with Pharmacology a short optional course of demonstrations in Practical Pharmacy. This course will enable students to better understand the correct methods of combining drugs. (CRAWFORD)

2. Graduate Course.—The laboratory is open throughout the year to properly qualified students who wish to carry on independent work in pharmacology. (CRAWFORD)

IX. DIVISION OF PHYSIOLOGY

OLIVER PEEBLES JENKINS, FRANK MACE MCFARLAND, Professors.
CLARA S. STOLTENBERG, Associate Professor.
JAMES ROLLIN SLONAKER, FRANK WALTER WEYMOUTH, Assistant Professors.

1. Physiology of Muscle and Digestion.—An experimental course covering the ground represented in Foster's Physiology, or Howell's Text-book on the same subjects. (Two lecture and five laboratory hours per week.) [Coure 2 in the Department of Physiology and Histology.] 4 units, 1st semester (JENKINS, SLONAKER, KAY)

2. Physiology of Blood and Circulation, Respiration, Elimination of Wastes, Metabolism, and Nutrition.—Follows course 1. An experimental course, with Foster's Physiology and Howell's Text-book as texts. One lecture and five laboratory hours per week.) [Course 3 in the Department of Physiology and Histology.]
4 units, 2d semester (JENKINS, SLONAKER)

3. Structure of the Nervous System.—The course consists of the dissection and comparative study of a series of vertebrate brains, including the human brain and cord, also the peripheral nervous system; abundant material is provided, also such necessary helps as the latest models and charts. For texts the student will use Quain, Edinger, and Barker. (One lecture and five laboratory hours per week.)
3 units, 1st semester (STOLTENBERG)

4. Anatomy and Histology of the Sense Organs.—The course is planned to accompany course 3, the two being designed to give the gross and minute anatomy of the central nervous systems and sense organs. The texts necessary for the student's use are Quain and Barker. (One lecture and five laboratory hours per week.)
3 units, 2d semester (STOLTENBERG)

5. Histology.—The study of the structure of the cell and its modes of reproduction, the epithelial, muscular, nervous, and connective tissues, and the outline of their development in a comparative way, occupy the first semester. During the second semester the structure of the blood and lymph, and the microscopic anatomy of the organs, are dealt with. Text required: Quain-Schäfer's Microscopic Anatomy. Elementary histological technique is taught during the course. In the second semester an opportunity is offered for a limited number of students to register for an extra unit, which is devoted to more extended histological technique. Prerequisite for course 5, course 1 or its equivalent. (One lecture and five laboratory hours per week.)

3 units, both semesters (McFarland)

6. Physiology of the Nervous System and Sense Organs.—An experimental course in these subjects, designed to follow courses 3 and 4. Texts: Foster, Howell's Text-book. (One lecture and five laboratory hours per week.) [Course 6 in the Department of Physiology and Histology.]

3 units, 2d semester (Jenkins)

7. Journal Club.—Students in the advanced classes will be expected to meet once a week to discuss current literature in Physiology and Histology. [Course 14 in the Department of Physiology and Histology.]

1 unit, 2d semester (Department Faculty)

8. Advanced and Research Courses in Physiology and Histology are open to those who are qualified to take them up.

X. DIVISION OF SURGERY

Stanley Stillman (executive), Adolph Barkan (emeritus), Emmet Rixford, Professors.

Leonard W. Ely, Associate Professor (Orthopedics).

Rufus Lee Rigdon, Albert Brown McKee, Edward Cecil Sewall, Clinical Professors.

Frank Ellsworth Blaisdell, Leo Eloesser, Assistant Professors.

Harrington Bidwell Graham, Assistant Clinical Professor.

John Francis Cowan, Instructor.

James Eaves, George Rothganger, George Preston Wintermute, Clinical Instructors.

Carolyn Palmer, Anaesthetist, Lane Hospital.

Aaron Samuel Green, Senior Assistant (Ophthalmology).

JOHN ROBERT BURROWS, ARTHUR LAWRENCE FISHER, FREDERICK MEARS GEDNEY, LOUIS DAVID GREEN, SYLVAN LEWIS HAAS, CLARENCE ELMER HYDE, LESTER O. KIMBERLIN, MILTON ELLIS LANDO, HARVARD YOUNG MCNAUGHT, ALLAN EARLE PECK, MELVILLE ERSKINE RUMWELL, HOWARD SOMERS, CHESTER HOWARD WOOLSEY, WALTER HOEPFNER WINTERBURG, Assistants in Clinic.

SUBDIVISIONS

OPHTHALMOLOGY GENITO-URINARY DISEASES ORTHOPEDICS
OTOLOGY, RHINOLOGY, AND LARYNGOLOGY

Instruction in Surgery begins in the fourth semester, with recitations and demonstrations in General Surgery, *i. e.*, the principles of surgery, surgical pathology, and the surgical diseases, together with recitations and demonstrations in fractures, dislocations, and deformities. The systematic text-book and lecture work in Regional Surgery is completed in the sixth semester. As far as possible clinical demonstrations will take the place of formal lectures. The work of the seventh and eighth semesters is essentially clinical, the general field being covered by means of clinics, practical demonstrations, bedside instruction, individual clinical investigation, and work in the laboratory of Surgical Pathology.

1. **General Surgery** (Surgical Pathology and Principles of Surgery).—Recitations, demonstrations, and laboratory work, utilizing clinical and pathological material from the outpatient clinics and Lane Hospital, and preparations from the museum and laboratory of Surgical Pathology. 2½ hours, 4th semester (STILLMAN, COWAN)

2. **Fractures, Dislocations, and Deformities.**—Recitations, study of X-Ray plates, and demonstrations of fractures and dislocations.
2 hours, 4th semester (ELOESSER, COWAN, BLAISDELL)

3. **Recitations and Demonstrations** in Diseases of the Extremities and certain affections of the head and neck.
2 hours, 4th semester (ELOESSER, COWAN)

4. **Regional Surgery.**—Recitations, demonstrations, and discussions continuing course 3 and also covering the field of neurological and abdominal surgery.
3 hours, 5th semester; 2 hours, 6th semester (STILLMAN, RIXFORD)

5. **Surgical Pathology.**—A laboratory course in which surgical problems are considered from the standpoint of Pathology. Special attention is given to the study of tumors and gross specimens from the outpatient clinic and hospital operating rooms.
2 hours, 5th and 6th semesters (COWAN, BLAISDELL)

6. Surgical Clinics and Section Work.—In this course operative clinics are given twice a week in the amphitheatre, quizzes and demonstrations in the outpatient clinics, and bedside instruction and history taking in the surgical wards of Lane Hospital. As far as practicable the operative clinics are limited to cases which have been previously studied by the student either in the medical or surgical wards or in the outpatient clinics. Each student will likewise administer ten anaesthetics in connection with the course under the supervision of Dr. Carolyn Palmer, the anaesthetist at Lane Hospital.

5 hours, 5th semester; 4 hours, 6th semester (STILLMAN)

7. Surgery: Ward Work and Clinics.—Outpatient Clinics and Lane Hospital. (The senior class is divided into two sections. Section I is assigned to Lane Hospital for the mornings of the 7th semester, and Section II for the mornings of the 8th semester.) Formal clinics are given once per week. Senior students are privileged to assist in oprations and in the dressing of cases both in the outpatient clinics and hospital wards. One hour per week of this course may be devoted to courses 13, 14, 15, 16, 17, 18, at the option of the student.

3 hours, 7th or 8th semesters (STILLMAN)

8. Surgery: Ward Work and Clinics.—San Francisco Hospital—(Section II of the senior class is assigned to the San Francisco Hospital for the mornings of the 7th semester and Section I for the mornings of the 8th semester.) Three hours per week are spent either in the wards or operating room, and there is a set surgical clinic once per week. One hour per week of this course may be devoted to optional courses in Surgery.

4 hours, 7th or 8th semesters (RIXFORD, ELOESSER)

9. Ophthalmology.—Demonstrations, recitations, and clinics. This course covers in a practical way the general field of diseases of the eye. Instruction is given in the use of the ophthalmoscope, perimeter, etc. Operations are performed both in Lane Hospital and the outpatient clinic.

2 hours, 7th and 8th semesters (MCKEE)

10. Otology, Laryngology, and Rhinology.—Demonstrations, recitations, and clinics. The diseases of the ear, nose, and throat are covered in a general way, and the practical use of the important diagnostic instruments is taught. Operations are performed both in the ampitheatre and in the outpatient clinic.

2 hours, 7th and 8th semesters (SEWALL, GRAHAM, WINTERMUTE)

11. Genito-Urinary Surgery.—Recitations, quizzes, and clinics.

This course includes practical work in the outpatient clinic and training in the use of the urethroscope and cystoscope. Special attention is devoted to investigation of the upper urinary tract. Operative clinics are held once a week.

3 hours, 7th or 8th semesters (RIGDON)

12. Orthopedic Surgery.—Clinics and demonstrations. This course covers the general field of Orthopedic Surgery.

2 hours, 7th or 8th semester (ELY)

13. Operative Clinic.—An operative clinic for senior students and qualified physicians is held once per week. Optional.

2 hours, 7th and 8th semesters (STILLMAN)

14. Outpatient Clinics.—In this course opportunity is afforded senior students and qualified physicians of examining cases and of doing dressings, bandaging, and minor operations in the outpatient clinic under instruction of the Assistants. Optional.

Three mornings per week, 7th and 8th semesters
(HAAS, HYDE, ROTHGANGER, RUMWELL, WINTERBERG)

15. Operative Surgery.—A course of operative surgery on the cadaver in which the student performs or assists in performing most of the classical surgical operations. Optional.

7th or 8th semester (EAVES)

16. Refraction.—A practical course in Physiological Optics and Refraction open to senior students and physicians. Optional.

1 hour, 7th or 8th semesters (McKEE)

17. Advanced Ophthalmology.—Clinical work in the Outpatient Clinic and Lane Hospital open to senior students and physicians. Optional. 2 to 6 hours, 7th or 8th semesters (McKEE)

18. Advanced Otology, Laryngology, and Rhinology.—Clinical instruction for advanced students, including surgical operations. Optional.

2 to 4 hours, 8th semester (SEWALL, GRAHAM)

In connection with the above course, through the co-operation of the various clinics and laboratories, opportunity is offered advanced students and physicians to make a special study of functional testing of the ear, tubercular lesions of the larynx, anatomy of the ear, nose, and throat, special bacteriology of the upper respiratory tract, Roentgen Ray diagnostic methods, and of performing operations upon the cadaver.

(SEWALL, GRAHAM, WINTERMUTE, MOORE, BLAISDELL, DICKSON, BOARDMAN)

19. **Special Courses** will be offered to well trained physicians in the laboratory of Surgical Pathology and in the outpatient clinic and hospitals. Such students may register for advanced degrees or as Special Workers.

(Stillman, Rixford, Blaisdell, Ely, Cowan)

MARINE BIOLOGICAL LABORATORY

Professors Charles Henry Gilbert and Oliver Peebles Jenkins. Directors.

Professor Frank Mace McFarland, Instructor in Charge.

The Laboratory buildings are located at Pacific Grove, two miles west of Monterey, and stand on a low bluff immediately facing the sea. They consist of two two-story structures capable of accommodating about eighty students, and contain four general laboratories, one lecture-room, seventeen private rooms for special investigators, and a dark-room for photography. They are provided with running water, both salt and fresh, and ample provision is made for individual aquaria. The library and apparatus of the University are available for use in the Laboratory.

Session of 1913

The Twenty-second Session extended over a period of six weeks, beginning May 27th and closing July 10th.

Courses of Instruction

1. **General Zoology.**—An elementary course open to all students and to teachers and others who desire an acquaintance with the anatomy and life-history of marine animals, and with the methods pursued in laboratory study. One lecture a day, the remainder of each day being spent in the laboratory or on the collecting grounds under the immediate direction of the instructor. This course is accepted by the Department of Medicine as satisfying the preliminary biological requirement for admission to the work of that department.

2. **Zoology.**—Open to students who have had course 1 in Zoology or Physiology or an equivalent. The object of this course is primarily to enable students to gain a wide general knowledge of marine forms, and to this end special attention is devoted to collecting both along the shore at low tide and at the surface of the ocean. Material thus collected is studied in the laboratory, and

in this work students are encouraged to consult the zoological literature. Occasional lectures.

3. General Embryology.—A laboratory course in the general principles of the development of Invertebrate and Vertebrate forms, supplemented by lectures and assigned reading, and including the histogenesis of the reproductive cells, the maturation, fertilization, and early cleavage of the egg, and the formation of the germ layers, larval stages, and the early development of one or more Vertebrates. Open to students who have had at least a year's work in Zoology or Physiology.

4. Research in Histology or Cytology.—Opportunity is given to a limited number of students, with suitable preparation, to take up original investigation in the above subjects under such guidance and advice as may be necessary. The work is planned to suit the inclinations and needs of the individual student. Arrangements for this work are made by personal consultation or correspondence before the beginning of the season.

Registration

The sessions of the Marine Biological Laboratory constitute an integral part of the biological work of Stanford University. Students register for this work at Pacific Grove at the beginning of the session, and receive upon its successful completion five units of University credit.

Expenses

A laboratory fee of $25 is payable in advance. To investigators prepared to carry on original work, the use of the laboratory is tendered free of charge. Applicants for these privileges are expected to satisfy the directors as to their preparation for such work. Pacific Grove is well supplied with boarding accommodations with a considerable range in price, and also with cottages furnished for housekeeping. Students pay on an average about one dollar per day for room and board. Some small groups of students form clubs, rent cottages, and manage their own housekeeping, thus reducing their living expenses.

UNIVERSITY LIBRARY

GEORGE THOMAS CLARK, Librarian.
HELEN BINNIGER SUTLIFF, Chief Cataloguer.
ALICE NEWMAN HAYS, Reference Librarian.
LOUISE OPHÜLS, Acting Medical Librarian.
CHARLES V. PARK, Chief of Loan Desk.
ELIZABETH HADDEN, Chief of Order Department.
LUCIA MAY BROOKS, Chief of Serial Department.
ANNA GERTRUDE HALL, JEANNETTE CATHERINE MORGAN, Cataloguers, Lane Library.
LENA MARGUERITE KELLER, Cataloguer.
FREDERICK EDWARD BRASCH, Law Librarian.
MARGARET BRINTON, MARCELLA CARMELITA DUFF, DAVID PORTER DUNLAP, THOMAS LAFAYETTE DYER, HELEN AVERY GALE, ETHEL GRACE HEALD, LILLIAN A. HOLLMANN, [2]ROXANA GALLETHY JOHNSON, ANNIE HARRIET KEATINGE, HELEN KATHERINE KREPS, ALBERT HAROLD MOROSCO, JEAN REDMAN OLIVER, PHILIP DOSS BRADLEY PERHAM, LOUISE MARIE PETERS, [1]CLEMENTINE BURNS PORTER, MARY ELVIRA SMITH, MINNA STILLMAN, HANNAH LILLIAN TODD, FRANCIS FOSS WHEELER, LAURA AGNES WILLIAMSON, Assistants.
MARY JEANNETTE WOODRUFF, Stenographer.

The Library is housed in the Thomas Welton Stanford Library Building, which forms the central portion of the easterly half of the outer quadrangle façade. On the main floor are the general reading rooms, with accommodations for 220 readers, the reference room, serial room, and catalogue room. On the second floor are six seminary rooms, used exclusively by the Departments of Economics, English Literature, Germanic Languages, Greek, Latin, and History.

The Library is open during term time on week days from 8 a.m. to 10 p.m., except on Saturdays, when it is closed at 3:30 p.m.

During the short vacation the hours are from 8 a.m. to 4 p.m., Saturdays to 12:30 p.m., and during the long vacation from 9:00 a.m. to 4:00 p.m., Saturdays 9:00 a.m. to 12:00 m. The shelves are open to members of the faculty, and to students engaged in advanced work upon the recommendation of their instructors. Books, other than works of reference, not required for class use, are lent for a period of two weeks.

Including the departments of Law and Medicine the Library contains upward of 230,000 volumes, and the number is rapidly increasing. Noteworthy special collections are as follows:

THE JORDAN LIBRARY OF ZOOLOGY.—A collection consisting largely of works on ichthyology, to a considerable extent made up of a vast number of authors' separates, which have been accumulated by Chancellor JORDAN, bound in convenient form, indexed, and catalogued. The more voluminous publications, such as the works of Cuvier, Lacépède, Bloch, Bleeker, Gunther, and others, are well represented. These, supplemented by the proceedings of various societies and institutions, make a collection of books of great value to advanced students and investigators in ichthyology. The library is conveniently arranged, and is situated in the Zoology building near the laboratories and collections.

THE BARBARA JORDAN LIBRARY OF BIRDS.—A memorial collection presented by Chancellor JORDAN, and to which frequent additions are made. While some of the older texts are not represented, it is a good working library of ornithology and contains the principal modern works on the subject.

THE HOPKINS RAILWAY LIBRARY.—A collection of approximately 10,000 volumes and pamphlets dealing with the subject of transportation. In 1892 Mr. TIMOTHY HOPKINS, of San Francisco, presented to the University his private library on railroads, consisting of about 2,000 books, personally providing for its maintenance and growth for many years. At present there is an annual library appropriation for this purpose. The collection is shelved by itself in one of the seminary rooms. It is general in scope, intended to embrace all subjects touching on the building, maintenance, and operation of railways. It is especially rich in state and government reports, as well as in reports of individual railroads both in the United States and Europe, with much material pertaining to their history.

THE HILDEBRAND LIBRARY.—In 1895 the University acquired the library of the late Professor Hildebrand, of Leipzig, containing more than 5000 volumes and pamphlets relating largely to Germanic languages and literature, the seventeenth and eighteenth centuries being especially well represented, and including also a notable collection of three hundred old dictionaries. The value of the books is greatly enhanced by the manuscript notes of Professor Hildebrand.

THE THOMAS WELTON STANFORD AUSTRALASIAN LIBRARY.—A good working collection of books relating to Australia and New Zealand. It is especially rich in early voyages, travels and descriptions. Several hundred volumes of parliamentary reports of the Australian states, the Commonwealth, and New Zealand, are included. The publications of

learned societies, such as the Royal Societies of New South Wales and Victoria, the Australian Museum, and the New Zealand Institute, are well represented, while considerable pamphlet material also is available.

The Jarboe Collection on the French Revolution.—Acquired in 1910. It contains original materials, principally in French, relating to the Revolutionary and Napoleonic era. Two features of the collection are of particular interest to advanced students of history—the original and contemporaneously printed pamphlets, of which many are unusual; and the memoirs, of which there is a comprehensive selection.

The Lane Medical Library.—Founded by the directors of Cooper Medical College in accordance with the bequest of Mrs. L. C. Lane. The Library contains over 35,000 volumes, and is particularly rich in its collection of medical and allied periodicals. The leading domestic and foreign journals are currently received. The new library building, erected in 1912, is a fireproof structure of Colusa sandstone, and is located opposite the other medical buildings, on the corner of Sacramento and Webster streets, San Francisco.

Students may also have access to the Geological Library of President Branner, in room 333, Geology building. It contains over 30,000 books, pamphlets, and maps, relating chiefly to geology, mineralogy, paleontology, geography, exploration, metallurgy, and mining, including most of the state and government reports, and the publications of scientific societies in all parts of the world. Particulars regarding the sets may be seen at the Reference Desk in the general library.

THE MEMORIAL CHURCH

Rev. David Charles Gardner, Chaplain.
Louis H. Eaton, Organist.

Services in the Memorial Church were resumed in the first semester. The following special preachers were invited to occupy the pulpit during 1913-14.

FIRST SEMESTER

The Rev. William K. Guthrie (Presbyterian), San Francisco.
Bishop Edwin Holt Hughes (Methodist), San Francisco.
President James A. Blaisdell (Congregational), Pomona College.

SECOND SEMESTER

Dr. Francis Greenwood Peabody (Unitarian), Cambridge, Mass.—February 15, 22, March 1, 8.

Dr. Martin Abraham Meyer (Jewish), San Francisco—March 15.
The Rev. Edward Lambe Parsons (Episcopal), Berkeley—March 22.
Bishop Francis John McConnell (Methodist), Denver, Colorado—April 5, 12, 19.

UNIVERSITY CHOIR

Louis H. Eaton, Organist.

The choir sings at the services of the Memorial Church. For membership consult the Organist.

Rehearsal Th 7:35 1 unit of credit per semester

LECTURES, RECITALS, LITERARY CONTESTS, HONORS, AND CLUBS

University Assemblies

University Assemblies are held at intervals, averaging about once a fortnight, during the regular hours of instruction. All university classes are suspended during the Assembly hour. In addition to a number of Student Assemblies, the following speakers and subjects have been represented in 1913-14:

September 5, 1913.—Annual Addresses to the Entering Class: President Branner, Student Adviser Schaupp, Mrs. Allan, Dean of Women, Chaplain Gardner.

September 9.—Methods of Resuscitation: Sir Edward A. Schaefer, University of Edinburgh.

November 13.—The Great Illusion: Mr. B. N. Langdon-Davies, of the Garton Foundation, England.

February 4, 1914.—European Politics and Emergence of Small States: President Benjamin Ide Wheeler, of the University of California.

March 2.—The Renaissance of Asia: Mr. Sherwood Eddy, of India.

March 24.—America's Growing Concern in a Sound International Statecraft: Mr. Norman Angell, Paris, France.

Lectures

Presented by the University or under the auspices of various societies and clubs.

September 25.—In Memoriam, Burt Estes Howard and Alphonso Gerald Newcomer: Addresses by Professors Fairclough and Flügel.

October 2.—The Distribution of Parasites and Beneficial Insects Throughout the State: Dr. Albert John Albert Cook, State Commissioner of Horticulture.

October 6.—Fertile Argentine and the Vast Patagonian Pampas: Charles W. Furlong, F. R. G. S.

October 7, 8, 9.—(1) Moral Reason or Moral Sense, (2) The Morality of Savages, (3) The Validity of the Moral Judgments: Dr. Hastings Rashdall, of Oxford.

November 14.—Books and Reading: Mr. George Hamlin Fitch, of San Francisco.

February 18-March 8.—(1) The Practicability of the Christian Life, (2) The Christian Life and the Modern Family, (3) The Christian Life and Modern Business, (4) The Christian Life and the Making of Money, (5) The Christian Life and the Use of Money, (6) The Christian Life and the Christian Church: Six lectures by Professor Francis Greenwood Peabody, of Harvard University.

April 5-19.—(1) The Human Emphasis in Christianity, (2) The Instrumental in Christianity, (3) The Conquests of Christianity: Three lectures by The Rev. Bishop Francis John McConnell, of Denver, Colorado.

Cosmopolitan Club

February 5.—Brazil, with lantern illustrations: Assistant Professor Percy Alvin Martin.

Classical Club

September 18.—The Ides of March and Pompey's Theatre: Mr. S. Richard Fuller, Boston, Massachusetts.

November 10.—Anatole France as Interpreter of Ancient Life: Associate Professor Jefferson Elmore.

February 10.—Herculaneum and Its Treasures: Professor Henry Rushton Fairclough.

Physiology Club

December 3.—Handicaps in Medicine: Professor Wilfred Hamilton Manwaring.

Young Men's Christian Association

October 27.—Sex Hygiene: Dr. Winfield Scott Hall, of Northwestern University.

January 18.—Mohammedanism: Professor David Prescott Barrows, University of California.

January 25.—The Heroism of Every-Day Life: Mr. John L. McNab, San Francisco.

February 1.—Practical Christianity: The Hon. Horace Davis, San Francisco.

February 8.—Circles of Obligation: The Rev. Bp. Edwin Holt Hughes, San Francisco.

March 3, 4, 5.—The Christian View of Life's Problems: Mr. Sherwood Eddy, of India.

Young Women's Christian Association

September 16.—The Opportunity of College Girls to be of Real Service: Mrs. Octavine Briggs Schweitzler, of the Nurses' Settlement, San Francisco.

September 23.—The Reverent View of Life: Rev. George G. Eldredge, Berkeley.

October 14.—The New Philanthropy: Dr. Jessica B. Peixotto, University of California.

October 28.—Social Service in Relation to Hospitals and Clinics: Dr. Ray Lyman Wilbur, Dean of the Stanford Medical School.

November 4.—Opportunities for Leadership: Professor Charles E. Rugh, University of California.

December 2.—India: Miss Mary Bentley, State Y. W. C. A. Secretary.

February 3.—Opportunities for Women in Playground Work: Mr. George W. Dickie, Superintendent of Recreation, Oakland.

February 16.—Africa: Mrs. Harriet Cory Hummel, '95.

March 4, 5, 6.—Fundamental Principles Underlying Christianity: Miss Bertha Conde, International Secretary Y. W. C. A.

Botany

November 20.—Factors Governing Plant Distribution: Professor Douglas Houghton Campbell.

December 4.—The Great Phyto-Geographical Areas: Professor Campbell.

February 10.—Asa Gray and His Relation to Modern Botany: Professor George James Peirce.

February 24.—Erwin F. Smith and the Development of Plant Pathology: Mr. James Ira Wilson McMurphy.

March 10.—Sir Joseph Hooker: Professor Campbell.

Engineering Societies

November 4.—The Hetch-Hetchy Water Supply for San Francisco: Mr. M. M. O'Shaughnessy, City Engineer of San Francisco.

November 27.—The Engineering of Manufacturing Plants: Mr. George Mackensie Brill, of Chicago.

December 4.—The Electrification of the Tehachapi: Mr. A. H. Babcock, Chief Engineer of the Southern Pacific Company.

Popular Medical Lectures

January 16.—How the New Food and Drug Legislation Affects the Consumer (illustrated): Professor M. E. Jaffa, Director of the Bureau of Foods and Drugs, California State Board of Health.

January 30.—Mental Therapy: Dr. Walter Frank Schaller.

February 13.—The Anatomical Basis for the Alleged Inferiority of Women: Professor Albert William Meyer.

February 27.—X-Ray in Medicine and Surgery (with demonstrations): Dr. Walter Whitney Boardman.

March 13.—The Medical Service of Our Navy: Dr. M. F. Gates, Medical Inspector, U. S. Navy.

March 27.—History and Nature of Insanity: Dr. Andrew William Hoisholt, Superintendent of Napa State Hospital.

Musical and Dramatic Recitals

September 26.—Presentation of Haddon Chambers' *"The Tyranny of Tears,"* by Sword and Sandals.

February 6.—Presentation of Barrie's *"Quality Street,"* by The Masquers.

March 2.—Violin Recital, by Mr. Fritz Kreisler.

March 14.—Presentation of Winchell Smith's *"The Fortune Hunter,"* by the Sophomore Class.

March 26.—Presentation of the Junior Opera, *"The College Prince."*

Peninsula Musical Association

October 30.—Recital: Frances Alda, soprano; Frank La Forge, pianist; Giutti Casini, cellist.

December 11.—Piano Recital: Madame Fannie Bloomfield Zeisler.

February 11.—Song Recital: Mme. Clara Butt and Mr. Kennerley Rumford.

May 2.—Song Recital: The Flonzaley Quartet.

Commencement Address—May 19, 1913

The Conquest of Europe by America: President David Starr Jordan.

Phi Beta Kappa Open Meeting—May 18, 1913

The Address—Epictetus: Professor Edward Bull Clapp, University of California.

The Poem—In the Wilderness: President David Starr Jordan.

Founders' Day—March 9, 1914

The Address—The Founders of the University: Judge William W. Morrow, of the United States Circuit Court of Appeals.

Installation of President Branner—October 1, 1913

The Installation: Mr. Timothy Hopkins, President of the Board of Trustees.

Presentation of the Presidential Chair: Mr. Arthur Gainsford Halm, President of the Associated Students.

Acceptance on behalf of the University: The Hon. Horace Davis, of the Board of Trustees.

Address on behalf of the Students: Mr. Earl Charles Behrens, of the Class of 1914.

Address on behalf of the Alumni: Mr. Charles Kellogg Field, of the Class of 1895.

Address on behalf of the Faculty: Professor John Maxson Stillman.

The Inaugural Address: President John Casper Branner.

The Raymond Fred West Memorial Lectures on Immortality, Human Conduct, and Human Destiny

"In memory of our beloved son, Raymond Fred West, a student in Leland Stanford Junior University, who was drowned in Eel River, California, on January 16, 1906, before the completion of his college course, we wish to present to the trustees and authorities of the Leland Stanford Junior University, at Palo Alto, California, the honored Alma Mater of our son, the sum of ten thousand dollars, to be held as a fund in perpetual trust, for the establishment of a lectureship on a plan similar to the Dudleian Lectures and the Ingersoll Lectures at Harvard University. . . .

"It is our wish that such lectures shall not form part of the usual college or university course, nor shall they be delivered by any professor or instructor in active service in the institution. Such lecturer may be a clergyman or a layman, a member of any ecclesiastical organization, or of none, but he should be a man of the highest personal character and of superior intellectual endowment. He shall be chosen by the Faculty and the Board of Trustees of said University in such manner as the said Board of Trustees may determine, but the appointment in any case shall be made at least six months before the delivery of said lecture. . . .

"The course of lectures shall be known as the 'Raymond Fred West Memorial Lectures on Immorality, Human Conduct, and Human Destiny.'"

In accepting this gift from the donors, Mr. and Mrs. Fred West, of Seattle, Washington, and establishing the lectureship as provided in the terms of the gift, the University has adopted the following plan and regulations:

That these lectures be delivered on alternate years, the first in the year 1911; that the lecturer give at least three lectures; that these lectures be published in book form within not less than two years; that

the lecturer have the option of publishing them himself, in which case the University will purchase a hundred copies, or of having the University publish them, in which case it will retain the copyright. In any case, the manuscript of the lecturer must be filed in the University archives;

That the honorarium given be decided in each case by the Board of Trustees, and that unless otherwise ordered the entire earnings of the West fund for the two years be devoted to honorariums and to the purpose of publication;

That the West Lecturer be each time nominated by the President, with the approval of the Advisory Board, and the consent and ratification of the Board of Trustees, as is the case with ordinary appointments.

The second series of the West lectures was given in April, 1913, by the Rev. Samuel McChord Crothers, of Cambridge, Mass.

The Bonnheim Ethical Dissertations and Discussion

The purpose of the Bonnheim dissertations and discussion, as defined by the Founder, Mr. Albert Bonnheim, of Sacramento, is as follows: "It is not so much desired to obtain new facts or new truths in ethics as it is to place the truth which we now have before as many students as possible, so that they will take greater interest in questions dealing with ethical problems." The competition is open to all undergraduate students of Stanford University, and is divided into two parts:

1. *The Bonnheim Dissertations.*—The general regulations governing the competition are as follows: Each competitor must deposit with the Registrar before a fixed date in January an essay upon the subject assigned by the committee. The essays must not be signed, but should have some mark of identification and be accompanied by a sealed envelope containing the name of the author. They must be typewritten on thesis paper of regulation size. No limit of length is prescribed, but a treatment not to exceed ten thousand words is recommended. The subject announced is intended by the committee to be a general one. It is desirable that dissertations be limited to some particular phase of the general subject. The judges will announce the names of the four competitors who present the best Bonnheim dissertations, awarding them premiums of $50 each. But no award will be made to any essay not deemed worthy of recognition. Copies of successful dissertations must be deposited in the President's Office for transmission to Mr. Bonnheim.

2. *The Bonnheim Discussion.*—The winners of the Bonnheim premiums for dissertations shall be qualified to engage in the discussion.

which will be upon the same subject as the dissertations, and which will be held the first week in February. The Bonnheim prize of $50 will be awarded to the speaker who in his discussion of the subject shows the clearest insight and makes the most effective presentation. Each speaker will be allowed twenty minutes.

The general subject for 1913-14 was "The Ethical Aspects of the Workmen's Compensation Act." The essays were received January 16, and the discussion took place February 7. Premiums were awarded to JAMES DOUGLASS ADAMS, '15, ALBERT FREEMAN COYLE, '15, GEORGE CHARLES HODGES, '16, and KARL ELIAS LEIB, '14. The Bonnheim prize was won by KARL ELIAS LEIB.

The judges of the dissertations were Professors ANGELL, TERMAN, and WILLMAN; of the discussion, Professors CARRUTH, SABINE, and SKINNER.

The subject for 1914-15 will be "The Ethical Aspects of the Minimum Wage for Women and Minors." Dissertations must be left at the Registrar's Office not later than 4:30 p.m., January 15. The discussion will be held February 6.

INTERCOLLEGIATE DEBATE

An INTERCOLLEGIATE DEBATE, under the auspices of the Associated Students of the University of California and of the Leland Stanford Junior University, is held in November of each year. In 1913-14 the debate was held November 22, in the auditorium of the Girls' High School, in San Francisco.

The question for discussion was, "Resolved, That the immigration to the United States of all unskilled laborers of the Slavic, Italic, and Hellenic races from Eastern and Southeastern Europe should be prohibited." The contestants were AUBREY WHEELER DRURY, '14, WILLIAM GLENN MARVIN, '14, and EUGENE KING STURGIS, '15, of the University of California; ALBERT FREEMAN COYLE, '15, ARTHUR LOCKWOOD JOHNSON, '16, and KARL ELIAS LEIB, '14, of Stanford University. The judges were Mr. JOHN L. MCNAB and Mayor JAMES ROLPH, of San Francisco; Mayor FRANK MOTT, of Oakland. The debate was won by Stanford.

CARNOT MEDAL

The CARNOT MEDAL, presented by the Baron de Coubertin, for the purpose of encouraging the study and discussion, in California, of French history and politics, is awarded annually to the student who, in the opinion of the judges, proves himself the best debater in a contest held for that purpose between Stanford University and the University of California.

Under the rules of the contest the general subject for discussion in 1913-14, "The Foreign Policy of France," was made known in December, 1913. The contest occurs April 10, and the particular phase of the question to be discussed will be made known to the contestants two hours before the time set for the debate.

The Pacific Coast Debates

Debates with the Universities of Washington and Oregon are held under the auspices of the Pacific Coast Debating League, composed of Stanford University, the University of Oregon, and the University of Washington. Each institution is represented by two teams of two men each. The teams debate the affirmative and negative of the same question, which is chosen by the intercollegiate debating committees of the three institutions. The affirmative side of the question debates at home, while the negative side contests at one of the other universities.

The question for 1913-14 was, "Resolved, That the Executive Department should be made responsible for our national budget." The debates were set for March 13. Stanford was represented at Eugene, Oregon, against the University of Oregon, by Corson William Ide, '16, and Clinton Byron Weston, '15, with Charles Franklin Cook, '16, as alternate; at Stanford University, against the University of Washington, by Jewel Waldo Kauffman, '16, and Paul Langdon Williams, '17, with John Francis Elden, Jr., '16, as alternate.

The debate at Eugene was won by the University of Oregon; the home contest was won by Stanford.

The Edward Berwick Junior Peace Prize

Under the auspices of the California Branch of the American Peace Society, an annual prize of fifty dollars, called the Edward Berwick Junior Peace Prize, is offered for competition by students of Stanford University. The award is made to that speaker who, in a public contest, delivers the address which in the opinion of the judges is most effective in promoting the cause of international peace. A student who has once won the peace prize is not eligible to participate again in the contest. In 1913-14 the contest was held January 23. The contestants were Albert Boyce Aten, '16, Lawrence Clayton, '15, Albert Freeman Coyle, '15, James Gordon Emerson, gr., Corson William Ide, '16, Arthur Lockwood Johnson, '16, and Albert Harold Morosco, '16. The judges were Professors Elmore, Grass, and Green. The prize was awarded to James Gordon Emerson.

Essays on Total Abstinence

A prize of fifty dollars is offered annually, under the auspices of the Woman's Christian Temperance Union, to Stanford students for the best essay on Total Abstinence from Alcoholic Liquors.

Essays in competition for this prize should contain not less than two thousand and not more than three thousand words, and should be sent to the Committee on Literary Contests on or before May 1. The award will be made by a board of judges chosen jointly by officers of the Woman's Christian Temperance Union and the Faculty Committee on Literary Contests. No award will be made if no manuscript is deemed worthy of special recognition. The winning essay is eligible for competition for a national prize of one hundred dollars, awarded to the best manuscript of those which have already won a local award.

Philological Association

Associate Professor Oliver Martin Johnston, President
Assistant Professor Henry David Gray, Secretary.

The University Philological Association was organized September 17, 1892, for the purpose of reading and discussing results of scientific investigations in language and literature. The membership consists of the instructors and advanced students in the different language departments in the University. The regular time of meeting is the first Thursday of each academic month, excepting September, January, and May, at 8 p.m. The following papers were presented during the calendar year ending April 1914:

April 1913.—(1) The Decay of German Literature in the 13th Century: Associate Professor Rendtorff; (2) The Exchequer Roll of 26 Henry III, 1241-1242: Associate Professor Cannon; (3) Plautus, Mastellaria 832 ff: Associate Professor Martin.

October.—(1) The Neo-Classic Movement in Spain: Dr. Pelissier; (2) The Pronouns of Address in the Idylls of the King: Professor Carruth.

November.—(1) The English Elements in New Mexican Spanish: Assistant Professor Espinosa; (2) Stevenson and the Classics: Mr. William Chislett, Jr.

January.—(1) A New Critical Edition of Floire et Blancheflor: Professor Johnston; (2) The Kfatiu Garden-Charm: Professor Hempl.

February.—(1) The Philological Association: Its Past and Its Future: Professor Flügel; (2) The University and the Philological

Association: Vice-President STILLMAN; (3) The Greek Language of Minoan Crete: Professor HEMPL.

March.—(1) The First Quarto Hamlet: Assistant Professor GRAY; (2) The Element of Melancholy in Arnold's Poems: Dr. CARL SAWYER DOWNES.

SCIENCE ASSOCIATION

Professor ARTHUR WILLIAM MEYER, President.
Assistant Professor JAMES ROLLIN SLONAKER, Secretary.

The SCIENCE ASSOCIATION was organized January 17, 1894. Original investigations and papers of general interest on scientific topics are presented from time to time.

The following papers were read before the Association during 1913-14:

October 22.—Earthquake Surveys: President JOHN CASPER BRANNER.

November 19.—Horizon Illusions: Professor FRANK ANGELL.

December 10.—(1) A New Trout from Nevada: Associate Professor JOHN OTTERBEIN SNYDER; (2) Tissue Culture: Assistant Professor EDGAR DAVIDSON CONGER.

January 14.—The Dawn of Modern Chemistry: Professor JOHN MAXSON STILLMAN.

February 4.—Psychical Research at Stanford University: Dr. JOHN EDGAR COOVER.

February 25.—Respiration: Professor GEORGE JAMES PEIRCE.

March 25.—Life History of the Edible Crab of the Pacific Coast: Assistant Professor FRANK WALTER WEYMOUTH.

April 22.—Biological Survey of an Alaskan Bird-Forest Reservation: Professor HAROLD HEATH.

THE FORUM

Executive Committee: Professor CHARLES ANDREWS HUSTON, Chairman; Associate Professor COLBERT SEARLES, Secretary-Treasurer; Assistant Professor JOSEPH GRANT BROWN.

THE FORUM, organized in 1909, is a Faculty Club for the unofficial discussion of academic questions. The following papers were presented in 1913-14:

October 17.—Relation of Journalism to the University: Assistant Professor EVERETT WALLACE SMITH.

November 21.—The Faculty's Place in the Administration: Professor WARNER FITE.

December 12.—Admission of Women to Stanford University: Symposium by Professors BENTLEY, HALL, STOLTENBERG, and TOWNLEY.

January 24.—The Library and some of its Relations to other Departments of the University: Librarian GEORGE THOMAS CLARK.

February 28.—Limitation of Numbers as a Solution of the Budget Problem: Registrar ORRIN LESLIE ELLIOTT.

March 27.—The Scientific Spirit and University Organization: Professor GUIDO HUGO MARX.

April 17.—The Relation of the University to its Professional Schools: Professor ARTHUR MARTIN CATHCART.

LELAND STANFORD JUNIOR MUSEUM

Harry C. Peterson, Curator.
James Scott Topham, Assistant Curator.
John Michael Erickson, Grenville Gates Howard, G. Ito, Geroid Robinson, Elmer Williams, Assistants.

In 1880, Leland Stanford, Junior, then eleven years of age, accompanied his parents on a trip through Europe, and collected numerous mementoes of the places visited. In 1883, on a second trip he began to pursue this object more ambitiously, and finally with the idea of establishing a museum. The Leland Stanford Junior Museum was designed by Mrs. Stanford as a memorial to perpetuate this idea, and the various collections are mainly her gift to the Museum.

The collection made by Leland Stanford, Junior, between 1880 and 1884, has been placed in two rooms (A and B), and in room A his own arrangement is reproduced in detail. In the room adjoining (B) are found mementoes of his early life. These two rooms contain especially Egyptian bronzes, Tanagra figurines, Greek and Roman glass, armor, mosaics, Sèvres and Dresden ware, and the like.

The Memorial Room (O) was designed to contain personal mementoes of Senator and Mrs. Stanford. The collection includes ancestral portraits of the Stanford and Lathrop families; two cases devoted to the Grant family collection; racing trophies; Muybridge's first photographs of "Animals in Motion," and subsequent works; the "Last Spike," and other historic relics of the Central Pacific Railroad; a large assortment of Point, Alençon, Chantilly, Duchesse, Honiton, Valenciennes, and other laces; India shawls, fans, Worth dresses, antique jewelry, and European souvenirs.

The vestibule and upper corridor are devoted principally to statuary, old and rare books, papers, etc., including Duc de Loubat's reproductions of Aztec and Mexican manuscripts, a 16th century illuminated Turkish Koran, Lord Kingsborough's "Antiquities of Mexico," and German engravings.

The Di Cesnola Collection (rooms C and E) contains five thousand pieces of Greek and Roman pottery and glass from the Island of Cyprus.

Room F contains a collection of Venetian glassware and chandeliers, mirrors, and mosaic art pieces, the gift of Messrs. Salviati & Camerino.

of Venice, Italy. Iridescent glass, Etruscan vases, Roman lamps, sculptured marble heads, and bas-reliefs of the first century were added by Mrs. Stanford.

The American collection (I) is made up of mound relics, Indian baskets, Acoma ware, utensils, Alaskan canoes, totem poles, etc. In this room is also a display of material of the stone age purchased by Mrs. Stanford in Denmark, as well as a collection of Samoan relics and war implements, given by Chancellor JORDAN. The center case in this room contains practically all the implements extant of the old Mission Dolores, presented by Don Pablo Vasquez, whose father was the last major-domo of the Mission.

In the Chinese and Japanese room (K) there is a collection of bronzes, arms, china, lacquer, cabinets, musical instruments, rich embroideries, and specimens of wood-carving, including the Imperial bedroom set, a marvel in wood-carving and inlaid work.

The Japanese collection, purchased by Mrs. Stanford in 1902, consists of cloisonne, Satsuma, porcelain, embroideries, Buddhistic images, and ivory carvings. The large bronze Koro, over 300 years old, is especially noteworthy. The Corean collection, the gift of Mr. Timothy Hopkins, contains costumes, household goods, cabinets, screens, etc. Mr. Hopkins has also placed in the Museum a collection of ancient and modern coins and medals (Room F).

The Fine Arts Collections (rooms P, Q, R, U, and V) include pictures by Messonier, Bouvier, Bonnat, Richter, Carolus-Duran, Van Wyck, Bierstadt, Ch. Landelle, Courtois, Piot, Munier, Brozik, Ricci, Humphrey Moore, Porteilje, Bradford, E. Paoletti, Mazzoni, Keith, Hill, Charles Nahl, C. T. Wilson, and many others.

A recent collection of eighty-five oil paintings, presented by Mr. Thomas Welton Stanford of Melbourne, Australia, includes canvasses and panels from Minderhout Hobbema, James Giles, R. S. A., John Frederick Herring, Lienur, Van der Houten, Francis Snyders, W. J. Laidlay, David Pates, John Yarley, Julius M. Price, J. W. Ready, William Melby, James E. Meadows, Elijah Walton, F. G. S., W. Henry, W. Koek-Koek, E. Wake Cook, T. R. Miles, Sr., John Glover, Herr Schnars-Alquist, Louis Buvelot, William Hart, William Shiels, R. S. A., S. Bird, Patrick Nasmyth, Emil Bayard, Gerard Lairesse, C. Wimmer, Salvator Rosa, G. Koken, John Weenix, Bachman, Kobell, Jr., Charles Stuart, Heinrich Rasch, Melchoir Hondecooter, Marie Angelica Kaufman, Ten Kate, George Earl, Guardabassi, and E. G. Lewis. This collection is in Room U. A collection previously presented by Mr. Stanford includes

a group of sixty oil paintings of Australian scenes, the work of I. W. Curtis, of Australia. Many of these are now hung in Room Q.

Room V contains the Anna Lathrop Hewes collection of paintings, statuary, mosaic, etc. Ceramics collected by Mrs. Stanford include Sèvres, Dresden, Royal Berlin, Persian, Pompador crystal, Bohemian. and numerous other wares.

Through the courtesy of Wells, Fargo & Co., all gifts intended for the Museum will be transported free of charge over their lines, in shipments of fifty pounds or less, from railroad points in California, Oregon, and Nevada, if addressed to The Curator, Leland Stanford Junior Museum, Stanford University, California.

Pending the complete restoration of the Museum building, a tempo rary installation of exhibits has been made in the main portion.

Museum hours: 10:00 a.m. to 5:00 p.m. except Sundays and holidays.

DEGREES CONFERRED

*September 6, 1912; †January 10, 1913; May 19, 1913

BACHELOR OF ARTS

GREEK

†Mabel Adella Brekke

LATIN

Anne Brooks
Dorothy Culp
Frances Anna Gower
Jennie Faye Kilpatrick
George Hallion Semple
Kathleen Stafford

GERMANIC LANGUAGES

†Alice Chalfant Allen
Natalie Louise Beach
Dixie Alberta Bell
†Ellison Wilhelmina Bodley
Josephine Cressey
Pauline Jeanette Current
*Ida Ellen Davis
†Gertrude H. Dunipace
Mabel Greenwood
Marion Stewart Judah
Mabel Jo Long
†Fanny Elizabeth Putcamp
Hannah Trainer Thompson
Eva Ray Weaver

ROMANIC LANGUAGES

†Helen Elizabeth Beharrell
George Louis Lawrence
Ethel Melrose Libis
†Agnes Cecilia Yoch

ENGLISH

Mildred Albertson
Donna Hinds Amsden
Lois Baker
Alliene Cash Barrett
Elizabeth Helen Baxter
†Eleanor Frances Burkham
May Jacqueline Butler
Genevieve Montague Courtney
Clara Alan Crutchfield
Vera Lillian Davidson
Marjorie Charles Driscoll
Gordon Gassaway
Karl Green
Lieurena Cole Greenfield
George Herman Hartwig
Elizabeth Hyndman
James Edmund McInerny
†Marjorie Montague
Guy Evan Needham
Grace Ferrol Oldshue
Chester Francis Paul
Helen West Robinson
Irene Robinson
Landon McGee Robinson
Eileen Margaret Roxburgh
Anna Laura Stevick
Dorothy Maxson Stillman
Charles Sawyer Turpin
Vesta Marion Wagner
Lois Mae Walton
Coral Agnes Wiles
Helen Louise Wishard

PHILOSOPHY

Sho-saku Oshima
John Watford Reed
Tomitaro Suzuki

EDUCATION

Ethel Riggs Biddle
†Emma Elizabeth Blauer
Roy Wade Bridgman
Marguerite Brown
Marguerite Graham
Margaret Bradfield Hopwood
†James Walter Jones
†Harrison Morton Lake
Carl Joseph Park
Howard Irving Schuyler
Frank Alson Scofield
Wilford Ebenezer Talbert
Alma Jane Ward

HISTORY

Louise Avery
†Walter Everett Barnard
Frank Elliott Barrow
Mary Bethel Bowden
Clayton Douglass Carus
Wilbur Ray Chandler
†Helen Cochrane
Emily Augusta Coleman
Ruth Crellin
†Ruth Melissa Crippen
†Olive Marion Davidson
Julia Mildred Eastey
Marguerite Knowlton Eyer
Mercedes Grace Faubel
Roger Goodan
†Samuel Montgomerie Haslett, Jr.
Casey Hewitt Hayes
Ruby May Keney Heckler
Sydney Marshall Higgins
Norval Townsend Horton, Jr.
†Ruth Hutchinson
Edith McCoy Ireland
†Frederick Monroe Johnson
†Madge Rose Kemp
Marie Elizabeth Lockwood
†Sheda Amy Lowman
†Katherine Barbara Lutz
Flora Georgia McCartney
Hazel May McMillan
Edward Earle Manning
Thomas Powderly Martin
Helene Montague
Andrew Jamieson Moore
†Helen Neal
†Chetanna Maud Nesbitt
†Willard Hodges Newman
Florence Sophia Ober
†Florence Jennings Orr
Morgie Adelia Post
†Fanny Belle Rankin
Florence Elizabeth Reynolds
Ralph Madison Rounds
†William Eugene Talboy
†Alice Caroline Weyse
Hettie Alice Withey
Mary Wormser

ECONOMICS

Ichiji Miyata Akahoshi
Henry Albert Beeger
Walter Eyster Buchly
George Mitchel Buffum

Louis Cass
George Leroy Foster
Alvin H. Frank
†Raymond Richard Hails
A. Juilliard Hall
Frank Barrett Hanawalt, Jr.
Charles Albert Hill
Frederick Ross Hudson
†John Sidney Johnson
Stanley Carmichael Kennedy
Henry Lawrence Loud
Albert Reynolds McConnell
John Arthur Macready
Ralph Stoneberger Morgan
†Mabel Newcomer
Sedley Clarendale Peck
Longueville Howe Price
Ingalls I. Reeve
Eva Alice Roberts
Lloyd Dudley Sweet
Jizaeman Tateishi
†Leroy Edwin Taylor
James Carl Thomas
Weston Stephens Wilson
Hirosaburo Yokozeki
Frank Herbert Young

PRE-LEGAL CURRICULUM

Edson Cronk Abel
Paul Emir Blanchard
William Preston Butcher, Jr.
†Chester Le Roy Coffin
*Charles Wagner Dooling
†Percy Douglas Fawcett
Clarence Edwin Fleming
Carl Hughes Gilbert
John Price Gregg
†Roscoe Wadsworth Griffin
Stanley Walter Guthrie
Karl Riffle Levy
Roland Jack McNeely
Charles Fenton Nichols
Patterson Dana Nowell
Frank Herbert Richey
Edgar Clarence Smith
Homer Roberts Spence

GRAPHIC ART

Ethel Ora Bardin
James Leo Duff
†Ernest Bruce Nelson
Louise Rider
Stella Belle Sankey
Cordelia Madison Smith

MATHEMATICS

Sydnie Aileen Gardner
Dorothy Marian Hindle
Julia R. Johnson
Ralph Matthews Noble
Margaret Marion Steele
Mary Hilda Volkmor

APPLIED MATHEMATICS

Grace Raymond Helmick

PHYSICS

Herbert Rovell Benham

CHEMISTRY

George Henry Beurhaus
Hector Crandall
†Edwin Reginald Harding
†Paul Mark Levy
Hugh Harold Mosher
Robert Lindley Murray
†Zeno Ostenberg
Alfred Liles Phillips
Francis Sitwell Pratt
Albert John Scholl, Jr.
Ruth Seeley
Glen Miller Smyth
Guy Carleton Swan
Devi Dyal Virmani
Waldo Ralph Waelty
William Irvin Weaver

BOTANY

Taylor Jay Blethen
Arthur Dickie Borden
Ollis Willard Newman
Frank Jason Smiley

PHYSIOLOGY AND HISTOLOGY

Albert Gordon Bower
Roscal Leroy Draper
Florence Edetha Dunlop
George Stevenson Holeman
Leonard R. Jenkins
Merton James Price
Karl Ludwig Schaupp
John Philip Strickler
†Charles Ernest von Geldern
*Carleton Wolsey Washburne
†Clyde T. Wetmore
Robert William Wilcox
†Elsa Will

ZOOLOGY

Clara Crosby
Mary Fisk

ENTOMOLOGY AND BIONOMICS

Leroy Childs
†Warren Locke Smith
Verne Genoa Stevens

GEOLOGY AND MINING

Robert Edwin Anderson
Harry Mayo Andreen
†Carl Hugh Beal
Edward Burke Corbet
Waldemar Fenn Dietrich
Benjamin Edward Erb
Andrew Douglas Fyfe
†William Conrad Gehrmann
Mortimer Louis Hall
Harold Briggs Hannibal
Olaf Pitt Jenkins
Grover Berner Lantz
†Bernard Harold Lasky
*Robert James McCann
†Harvey Wright Parmelee
*Alonzo William Peake
Arthur E. Remington
*Edwin John Stewart

CIVIL ENGINEERING

Charles Edward Beecher
Edwin Prescott Bly
Ivon Clay Briggs
Revoe Carlisle Briggs
†Floyd Cromwell Brown
†Edward James Cullen
Harry Bascom Davis
Wilbur Harvey Doxsee
Robert Francis Duryea
†Clarence Bernard Goodwin
†Charles Stewart Grace
John Stanley Grepe, Jr.
†Norman Marshall Halcombe
George William Hawley
George Walter Hunt
Paul Eells Jeffers
William Aiken Laird
Alexander Stuart Macdonald
†Robert Patchen Miller
Maurice Everard Morrison
†Roger Wolcott Olmstead
Chauncey Smith
Thomas Joseph Spellman
†Burroughs Agin Stephenson
Harry George Todtmann
George Harlan Trask
Charles Ralph Tupper
Romney Leigh Vaughn
Guss Valentine Wallach
Carlton Levi Wyant

MECHANICAL ENGINEERING

†Clarence P. Campbell
†Wallace Rolland Finney
*Burdette Lord Hostettler
Kenneth Irving Marshall
†Augustus Mudge Sanborn
Cecil Stocker Simon

ELECTRICAL ENGINEERING

*Edward Niles Adam
Frank Edward Anderson
†Clarence Cannon Argabrite
John Watson Fleming Armstrong
Everett Morse Calderwood
Melville Nathaniel Clark
John Francis Cullen
Walter Jennings Dodge
Charles Greenlaw Duffin
Harry Adolph Fore
Frank Julius Gleiss
Walter J. Hammond
Tomiichi Haraguchi
George Edward Holditch
Edgar Alden Jackson
Linford C. Lull, Jr.
James Arthur Miller
Rea Cambridge Newman
George Washington Polson
Gaylord Kenyon Snyder
†Gustav Wade
George Ireland Wright

BACHELOR OF LAWS

Jerome Devereaux Peters, A. B.
Granville Numan Wood, Jr.

MASTER OF ARTS

LATIN

Flora Anne Bagley, A. B.
†Ruth Beard, A. B.
Catherine Ida Birch, A. B.
†Anna Shipley Cox, A. B.
Mabel Harriett Usinger, A. B.
Malcolm Leland Yeary, A. B.

GERMAN

Edward Vere Brewer, A. B.
Catharine Morris Cox, A. B.
Lydia Lucile Meyer, A. B.
(Wisconsin)
Clara Lydia Schaaf, A. B.
†Elsie Louise Whittemore, A. B.

ENGLISH LITERATURE

Anais Julia Allen, A. B.
Walter Clyde Curry, A. B.
(Woffard)

ENGLISH PHILOLOGY

Maude Cleveland, B. L.
(California)

EDUCATION

†William Samuel Marten, B. S.
(Columbia)
Clarence Lucien Phelps, A. B.
William Thomas Root, Jr., A. B.
William Roy Tanner, A. B.

HISTORY

Ella Wissie Beaver, A. B.
†Emma Howse Kuno, A. B.
George Lutes Righter, A. B.
Francis Marion Russell, A. B.

MATHEMATICS

Rose Margaret Bennett, A. B.
Amanda Westhold, A. B.
(Illinois)

CHEMISTRY

Alice Ruth Berger, A. B.
Elton Marion Hogg, A. B.
(College of the Pacific)
Charles Kirkton McWilliams, A.B.
†William John Van Sicklen, A. B.

BOTANY

Charlotte Elliott, A. B.

BACTERIOLOGY

Frank Maltaner, A. B.

ZOOLOGY

Josephine Louise Dows Randall, A. B.

ENTOMOLOGY

Frankie Willard, A. B.

GEOLOGY

Theodore Chapin, B. S. (Occidental)

Joseph Stanley Hook, A. B.

ENGINEER

CHEMICAL ENGINEERING

Louis William Pingree, A. B.

MECHANICAL ENGINEERING

†Dexter Simpson Kimball, A. B.

Lyman Stevenson King, A. B.

JURIS DOCTOR

George Armand Ditz, A. B.
Maurice Timothy Dooling, A. B.
†Emmet Ross Fertig, B. L. (California)
†Frank Louis Guerena, A. B.
George Juan Hatfield, A. M.
Frank Howard Hilton, A. B.
Grant Holcomb, A. B.
Ignatius Martin Peckham, A. B.
Edmund Wright Pugh, A. B.
Alfred Worcester Robertson, A. B.
Chester Harvey Warlow, A. B.
Herbert Eustace White, A. B.
†Frederick Bertram Wood, A. B.

DOCTOR OF MEDICINE

George DeForest Barnett, A. M.
Ross Wallace Harbaugh, A. B.
Charles Nelson Leach, A. B.
Henry George Mehrtens, B. S. (California)
Arthur Lee Munger, Jr., A. B.
Francis Stolle, A. B.
Charles Ernest von Geldern, A. B.

DOCTOR OF PHILOSOPHY

CHEMISTRY

Harry Drake Gibbs, B. S. (Cornell)

PHYSICS

Harry Carleton Burbridge, A. B.

George Wilber Moffitt, A. B. (Iowa)

ZOOLOGY

†Samuel Stillman Berry, A. M. (Harvard)

Joseph Grinnell, A. M.

DIRECTORY OF STUDENTS

Name; home residence; major subject; status; University residence; post-office. Post-office in all cases *Stanford University* except where university residence is followed by initial letter of town ('p' indicates *Palo Alto* post-office; 'Mayfield-m,' *Mayfield* post-office, etc.) Street address *Palo Alto* or *Campus* unless otherwise named.

Status.—gr., graduate student; sp., special student; unc., unclassified law. The figures after major subject indicate the number of units of university work completed (and counting toward the 120 units required for graduation), no account being taken of 'deferred,' 'incomplete,' or 'conditioned' work. The dagger (†) indicates unadjusted standing from other colleges and universities. (Phys.-Physics; Phyl.-Physiology.)

The superior number [1], prefixed to the name of a student indicates registration for the first semester only; [2] indicates second semester only.

LELAND STANFORD JUNIOR MEMORIAL SCHOLAR

SIGURD VON CHRISTIERSON, '17

THE ALUMNI JORDAN MEDICAL SCHOLARS

CLYDE T. WETMORE, '13

HENRY ALPHONSO WYCKOFF, '07

[1]Abel, Edson Cronk A. B., Stanford, 1913.	Monrovia	Law gr.,	35 Encina
Ackley, Wenonah Gladys	Palo Alto	Educ. 66,	481 University-p
Adams, Earl Clinton	San Jose	PreL. 42,	Delta Tau Delta
Adams, James Douglass	Stanford Un.	Law 82,	9 Alvarado
Adams, Paul Coleman	Portland, Ore.	PreL. 5,	Phi Kappa Psi
Adams, Philip Van R.	Denver, Colo.	Econ. 8,	College Terrace
Adams, Robert Gemmell	Oakland	C. E. 94,	Beta Theta Pi
Adams, Sidney Francis	Stanford Un.	Geol. 10,	Cardinal Club
Adcock, Robert Glover	Salinas	C. E. 98,	169 Encina
Addleman, Clarence Lloyd	Acton, Ind.	M. E. 80,	219 Ramona-p
[1]Ahlswede, Ruth	Pasadena	Zool.,	Kappa Alpha Theta
Akin, Frances Berto	Atlanta, Ga.	Engl. 75,	KappaKappaGam.
Albee, Clara Lorena	Palo Alto	Engl. 37,	424 Webster-p
Albee, Helen Virginia	Tulare	Phyl. 32,	Mayfield-m
Albrecht, Paulus G. Hohenstein-Er. University of Kiel.	Ger.	Chem. gr.,	Encina

Alderson, Edwin Lyle San Diego Law 72, Beta Theta Pi
Alderson, Elizabeth H. San Diego Engl. 49, Pi Beta Phi
Allcutt, Chester Thorne Pasadena E. E. 78, 4 Lasuen
Allen, Anita Palo Alto Germ. 10, 601 Melville-p
Allen, Fred Cruickshank Bakersfield Law sp. unc. 45, Delta Chi
[1]Allen, Matilda Florence Acomita, N. M. Span. gr., 84 Roble
A. B., New Mexico, 1912.
Allen, Nellie Sutter Creek Hist. gr., Madrono
A. B., Stanford, 1913.
Alton, Tom Charles San Mateo Econ. 9, San Mateo-sm
Ambrose, Arthur Warren Lockeford Geol. gr., 127 Encina
A. B., Stanford, 1914.
Ames, Elmer Ruel Stockton C. E. 6, 184 Encina
Ames, Ione Ethel San Dimas Hist. 39, 32 Roble
[1]Ames, Walter Irving Ontario PreL. 8, Pine Cottage
Anderson, Adrien Louis Santa Cruz M. E. 38, Delta Tau Delta
Anderson, Clarence Sherman San Diego Law 68, 71 Encina
Anderson, Emil Shirley Los Angeles M. E. 10, 515 Waverley
Anderson, Frank Julius Vallejo Chem. 46, 164 Hamilton-p
[2]Anderson, Grace Knight Winslow, Ariz. Math. †, 13 Madrono
Anderson, Howard Salsbury San Jose Law 75, Kappa Sigma
Anderson, James M. Minnewaukan, N.D. Engl. gr., University Park
A. B., North Dakota, 1911.
Anderson, Laurel Edwin Burlingame Law 115, Burlingame-b
Anderson, Margaret Minnewaukan, N.D. Engl. gr., University Park
A. B., North Dakota, 1911.
Anderson, Mayme Minerva Tulsa, Okla. Educ. 99, 1511 Waverley-p
Anderson, Robert Edwin San Francisco Geol. gr., 162 Encina
A. B., Stanford, 1913.
Andrews, Esten Randolph Santa Clara Phyl.-Med. 89, 1267Fk.SC-sc
Andrews, Fred Page Tacoma, Wn. M. E. 11, Delta Upsilon
Andrews, Helmus Weddel San Diego Law 99, Kappa Alpha
Andrews, Rupert Burke San Diego E. E. 128, Kappa Alpha
Andrus, Carlton Leverett San Jose Phyl.-Med. †13, 202-20,SJ-sj
Angell, Thomas Francis B. Palo Alto Greek 64, 1200 Bryant-p
[1]de Angulo, Cary Fink University Park Econ. gr., University Park
A. B., Vassar, 1906; M. D., Johns Hopkins, 1911.
Anspach, Wilmur Claire Riverside PreL. 15, 45 Encina
Anthis, Austin Forrest Muskogee, Okla. Phyl. 7, 22 Lasuen
[2]Antrim, Hugh Seymour, Jr. Cairo, Ill. Phyl., Theta Delta Chi
Appleton, Harry San Jose Chem. 79, 147 Encina

Applewhite, James Miller Jr. Riverside Phyl. †5, Kappa Alpha
Arakawa, Futoshi Hilo, H. T. C. E. 103, 417 Bryant
[1]Argabrite, Walter Marion Ventura E. E. 123, Encina
A. B., Stanford, 1914.
Argall, Leland Stanford Spokane, Wn. Law 87, Cardinal Club
[2]Arnold,ClementHarrisse SanFrancisco Chem. gr., 418 Waverley-p
A. B., Stanford, 1910.
Arnott, John David Palo Alto C. E. 65, 798 Palo Alto-p
Asami, Goichi Honolulu, T. H. Phyl. 13, Japanese Club
Aten, Albert Boyce El Centro PreL. 43, 29 Encina
[1]Atkinson, Doris Mayfield Engl. 13, Mayfield-m
Aubert, Louisette Marie San Mateo Chem. 42, 220 Clark,SM-sm
Aupperle, Harold V. Grand Junc.,Colo. Econ. 8, Phi Gamma Delta
Austin, Charles Alphin Berkeley C. E. 10, Theta Delta Chi
Austin, Leslie Wentworth San Jose Chem. 13, 26 So. 19th, SJ-sj
Averill, James Paul, Jr. Portland, Ore. PreL. 4, Sigma Nu
Avery, Harold Tolman Oakland C. E. 111, 142 Encina
Aylesworth, Gilbert Manly Cupertino C. E. 8, Cupertino-c
Babcock, Thomas Folger Oakland M. E. 13, Delta Tau Delta
Bach, Ralph Emmett San Diego Law 112, Delta Chi
Bacon, Alice Cornelia Oakland Educ. 31, Delta Gamma
Bacon, Ellard Ansel San Jose M. E. sp. 47, ThetaDeltaChi
[2]Bacon, Ruth San Jose Zool. †, 340 S. 12th, SJ-sj
Baier, Harry Howard Columbia Law sp. unc. 41, 118 Encina
Bailey, Margery Palo Alto Engl. 107, 207 Hawthorne-p
Baker, Milton P. Los Gatos M. E. 51, Los Gatos-l
[1]Baker, Robert Lynn San Diego PreL. 6, Phi Kappa Psi
Baker, William Elliott San Jose Educ. 93, 32 Encina
Baldwin, Beth Salt Lake City, Utah Hist. 75, Delta Gamma
Ball, Hazel Myra San Jose Engl. 86, Stevens Cr.,SJ-sj
Bandini, Elliott Los Angeles C. E. 46, Chi Psi
Barbat, Claire Mabel San Francisco Phyl.-Med.gr., DeltaGamma
A. B., College of Pacific, 1913.
Barker, Anna Ruth Palo Alto Math. 106, 16 Madrono
Barker, Charles Abner Redlands PreL. 52, Delta Chi
[1]Barnard, Walter E. Worcester, Mass. Hist. gr., Phi Gamma Delta
A. B., Stanford, 1913.
[2]Barnes, Howard H. Ellendale, N. D. Econ. †, 272 Delmas, SJ-sj
[2]Barnes, Manton Muhleman Monrovia M. E., Encina
[2]Barnes, William Hutt San Francisco Med. †, 1663 Bush, SF-sf
Barr, Remington Bellefourche, S. D. M. E. 15, 405 Emerson-p

Barrett, Alliene Cash A. B., Stanford, 1913.	Edwards, Miss.	Engl. gr.,	39 Roble
Barrow, Frank Elliott A. B., Stanford, 1913.	Los Angeles	Hist. gr.,	166 Encina
Barry, George Long	San Jose	Phyl.-Med. 107,	56 Encina
Barry, William T. Jr.	Santa Barbara	Engl. 75,	8 Encina
Barshinger, Byron Walter	Gilroy	Chem. 84,	57 Encina
[1]Bartlett, John Hale	Pasadena	C. E. 29,	Alpha Tau Omega
[2]Barton, Lorenzo James	San Mateo	M. E.,	San Mateo-s
[2]Barton, Millar Dodge	Los Angeles	Geol. 39,	Chi Psi
Baruch, Frederick, Jr.	San Francisco	Law 76,	50 Encina
Barzen, Alva Emrick	Pasadena	Econ. 90,	18 Alvarado
Bassett, Thomas E.	Palo Alto	Geol. sp. 7,	Encina
Bassett, Winona	Pasadena	Econ. 78,	Pi Beta Phi
Batcheller, Helen May	Los Angeles	Hist. 79,	Gamma Phi Beta
[1]Bathrick, John Hiram, Jr.	Gardena	M. E. 4,	567 Lincoln-p
Baumgartner, Frank Leroy	San Jose	Econ. 13,	Sigma Nu
[2]Beach, Rofena Maude	San Jose	Lat. †,	141 S. 10th, SJ-sj
[2]Beal, Blanche Iona	Palo Alto	Span. 60,	459 Hamilton-p
Beal, Edgar Reed	Los Angeles	Econ. 7,	92 Encina
Beanblossom, David W.	St. Joseph, Mo.	Hist. 118,	24 Encina
[2]Beard, Hawley Wetmore	San Francisco	M. E. 22,	184 Encina
Beaver, George Lovell	Palo Alto	E. E. 90,	475 Forest-p
Beaver, Mary Ann	Palo Alto	Zool. 13,	475 Forest-p
Becherer, Walter F.W.	Milwaukee, Wis.	PreL. 8,	Delta Tau Delta
Bedeau, Grover William	Marysville	Law 59,	71 Encina
Beebe, Charlie Elizabeth	Woodland	Educ. 108,	34 Roble
Beebe, Henry Clare	Ashland, Ore.	Geol. 45,	16 Salvatierra
Beebe, Mary Josephine	Woodland	Hist. 74,	24 Roble
Beecher, Charles Edward A. B., Stanford, 1913.	Monrovia	C. E. gr.,	192 Encina
Beeson, Joseph Josiah	Los Angeles	Geol. 39,	103 Encina
Behrens, Earl Charles	Redding	Law 109,	74 Encina
[2]Behrens, Luella Eva	Redwood City	Phyl. 53,	Redwood-r
Bell, Gollin	San Francisco	E. E. 47,	Encina
[2]Bell, Joseph Samuel	Oakland	Engl. †,	17 Salvatierra
[1]Bell, Vernon A.	Prineville, Ore.	Hist. 39½,	2 Lasuen
Bellinger, Hart Marcus	Plainwell, Mich.	PreL. 40,	Delta Chi
Benham, Herbert Rovell A. B., Stanford, 1913.	McKittrick	Phys. gr.,	527 Everett-p
Bennett, Edwin Oliver	Los Angeles	M. E. 10,	222 Byron-p

Bennett, James W.	Greensburg, Ind.	Engl. 58,	11 Salvatierra
Bennett, Paul Morphy	Phoenix, Ariz.	C. E. 25,	Delta Upsilon
Bentley, Bessie Geneva	Palo Alto	Graph. 14,	635 Homer-p
Bentley, Georgia Helen	Palo Alto	Bot. 64,	635 Homer-p
Benton, Anna Laura	Palo Alto	Span. 41,	522 Emerson-p
Berbert, Henry	San Mateo	C. E. 59,	129 Clark, SM-sm
de Bernardi, Alyssa	Santa Rosa	Span. †12,	Madrono
Best, Neil Orrin	Monterey	Educ. 91,	58 Encina
Betterton, Cherrill Roach	Seattle, Wn.	Geol.sp. 10,	SigmaAlphaEp.
Beyrle, Thomas	Los Angeles	Econ. 6,	Kappa Alpha
Bibb, Carlisle Hurst	Tacoma, Wn.	Econ. 7,	5 Lasuen
Bickel, Reddick Homer	San Francisco	C. E. 14,	25 Salvatierra
[2]Bihlman, George Herman	Live Oak	Ent.,	110 Encina
Bingham, Beatrice J.	Los Angeles	Engl. 109,	Langworthy Club
Binns, Mildred Elisabeth	Bryan, Ohio	Econ. 21,	14 Roble
Bird, Frank Stanley	Montpelier, Ida.	C. E. 8,	Redwood
Birdsall, EdwardMorrow	Chadron,Neb.	Econ. 54,	Sigma Nu
Black, Lewis Pitt	Monrovia	PreL. 57,	187 Encina
Black, Sherman Lawrence	Monrovia	Hist. 105,	187 Encina
Blackinton, Fred Stanford	Glendale	Econ. 9,	172 Encina
[1]Blanchard, Emma L.	Grants Pass, Ore.	Hist. †,	260 Homer-p
Blanchard, Paul Emir A. B., Stanford, 1913.	Grants Pass, Ore.	Law gr.,	260 Homer-p
Bland, Reba	San Jose	Ent. 77,	Alpha Omicron Pi
Blase, Roland Roy	N. St. Paul, Minn.	C. E. 106,	Sigma Nu
[1]Blauer, Emma Elizabeth A. B., Stanford, 1913, A. M., 1914.	San Jose	Educ. gr.,	361 Vine, SJ-sj
Bleecker, Robert Boynton	Pasadena	Econ. 32,	Delta Upsilon
Blickhahn, Eaton	Corona	Chem. 3,	197 Encina
Bliss, Anna	Earlville, Ill.	Germ. 110,	55 Roble
Blodget, WardBelnap	HuntingtonBeach	C. E. 74,	191 Encina
Bloeser, William Hargrave	Los Angeles	Econ. 79,	Kappa Alpha
Blood, Charles N. A. B., Stanford, 1913.	Esterbrook, Wyo.	C. E. gr.,	405 Kipling
Blumenthal, Maurice	Douglas, Ariz.	PreL. 48,	34 Encina
Boal, Marian Dickinson	National City	Engl. 39,	Alpha Omicron Pi
Bodley, Edith May	Palo Alto	Engl. 102,	353 Lytton-p
Boesch, Claribel Ruth	San Jose	Bot. 50,	318 S. 10th, SJ-sj
[2]Boezinger, Agnes Sophie	Palo Alto	Germ.	176 Bryant-p
Boezinger, Amelie E.	Palo Alto	Graph. 43,	176 Bryant-p
Boezinger, Frank	Palo Alto	C. E. sp. 112,	176 Bryant-p

Boezinger, Lydia Marie — Palo Alto — Germ. 49, — 176 Bryant-p
Bohart, George Shambaugh — Palo Alto — Chem. gr., — 856 Middlefield
A. B., Stanford, 1911, A. M., 1912.
Bolter, Lemuel Rose — Logan, Iowa — Econ. 34, — Sigma Chi
Bond, Rufus Gallatin — Santa Paula — M. E. 76, — 420 Hamilton-p
Bonnett, Edward Mortimer Jr. — Riverside — M. E. 78, — 12 Encina
Bonnett, William Henry — Riverside — Geol. 7, — 12 Encina
Bontz, Conrad Kauffmann — Palo Alto — Geol. 10, — 356 Coleridge-p
Boomershine, Edward R. — Versailles, O. — Math. 29, — 539 Homer-p
Bordé, Harry Joseph — Santa Monica — Law 103, — 18 Alvarado
Borden, Arthur Dickie — Palo Alto — Ent. gr., — 718 Bryant-p
A. B., Stanford, 1913.
Bordwell, Helen — Los Angeles — Hist. 87, — Delta Gamma
Borland, Robert Malcolm — Martinez — M. E. 7, — 25 Salvatierra
Borough, Richard M. — San Francisco — Econ. 77, — Delta Gamma
Bothwell, Charlotte L. — Salt Lake City, U. — Hist. 82, — Delta Delta Delta
Boulware, Edna — Palo Alto — Hist. 43, — 170 Bryant-p
[1]Bowden, Mary Bethel — San Jose — Psych. gr., — 1285 Alam., SJ-sj
A. B., Stanford, 1913.
Bower, William David — Salt Lake City, U. — Econ. 106, — Sigma Chi
Bowes, Edwin Lawrence — Pasadena — Econ. 83, — 18 Alvarado
Bowes, William Ketcham — Pasadena — Econ. 83, — 18 Alvarado
Boyd, Forrest Edwin — Fowler — Phyl. 73, — 76 Encina
Boyd, Harold Chester — Easton — C. E. 123, — Delta Kappa Ep.
[2]Boyers, Luther Mussen — Decatur, Ind. — Med. gr., — 2540½ Milvia, Ber.-b
A. B., Stanford, 1912.
Boyle, Charles Emerson, Jr. — Escondido — Chem. 76, — 660 Waverley-p
Boyle, Margaret Mary — Los Angeles — Engl. 42, — Delta Delta Delta
Brace, William — Chicago, Ill. — Law 108, — 659 Melville-p
Braden, Joseph Ross — Santa Clara — PreL. 38, — Phi Kappa Psi
Bradford, Warren Mead — Placentia — E. E. 87, — 180 Encina
[1]Bradley, Anna Laura — Pasadena — Econ. 120, — Pi Beta Phi
A. B., Stanford, 1914.
Bradley, Helen — Palo Alto — Span. 99, — 645 Lytton-p
Brady, Emmett James — San Francisco — Med. gr., — Lane Hosp., SF-sf
A. B., Stanford, 1911.
[1]Brandt, Emil Charles — Pasadena — C. E. 80, — Delta Upsilon
Branner, George Casper — Stanford Un. — E. E. 119, — Delta Upsilon
[2]Brasefield, Beatrice Maddock — Palo Alto — Engl., — 357 Fulton-p
Brekke, Mabel Adella — Los Altos — Grk. gr., — Los Altos-l
A. B., Stanford, 1913.

Brennen, Alice Anna	Blaine, Nev.	Lat. 109,	26 Madrono
Brenton, James Edward	Rocklin	Econ. 5,	325 Hamilton-p
Breuner, John, Jr.	San Francisco	Law 84,	Sigma Nu
Bridgman, Roy Wade A. B., Stanford, 1913.	San Jose	Educ. gr.,	343 So. 2d, SJ-sj
[1]Briggs, Alice	Hollywood	Econ. 96,	Pi Beta Phi
Briggs, Gladys Watson	Santa Ana	Engl. 74,	KappaAlphaTheta
Briggs, Otis Emmons	Orange	Geol. 12,	Encina
Brinkmeyer, Henry, Jr.	Prescott, Ariz.	C. E. 52,	59 Encina
Brix, Emma Marguerite	Fresno	Germ. 26,	Langworthy Club
Bronk, Herbert Hyland	Merced	Phil. †6,	262 Kingsley-p
Brooke, Philip Slaughter	Spokane, Wn.	Law 83,	Phi Kappa Psi
Brooks, Ruth	San Jose	Grk. 5,	Meridian, SJ-sj
Brown, Claude Everett	Stanford Un.	Med. 111,	2320 Clay, SF-sf
Brown, Comer Pitts	Long Beach	C. E. 105,	Theta Delta Chi
Brown, Edna Marion	Durango, Colo.	Zool. 25,	324 Emerson-p
Brown, Ralph James	Los Angeles	Law 53,	Zeta Psi
Brown, Ralph Waldo	Shamut	C. E. 134,	53 Encina
[1]Brown, Ray M.	Selma	Geol. 29,	Encina
[1]Brown, William Carlton	E. San Diego	Chem.sp. 13,	428 Hamilton-p
Browning, Dorothea E.	Ogden, Utah	Graph. 76,	Gamma Phi Beta
Bruce, Starr Lewis	San Francisco	Econ. 77,	67 Encina
[2]Brun, Otis Gorham	San Francisco	PreL. 1,	Kappa Sigma
Bryan, Miriam Alvada	Napa	Hist. 72,	Pi Beta Phi
Brydolf, Marvel June	San Bernardino	Graph. 14,	Alvarado Hall
Brydolf, Vernon Mars	San Bernardino	Law 110,	Sigma Nu
[1]Buckingham, Elisabeth Lee A. B., Stanford, 1910.	Palo Alto	Engl. gr.,	609 Kingsley-p
Buckley, James Raymond	Portland,Ore.	PreL. 11,	Sigma Nu
Bugbee, Theodore Potts	St. Johns, Ore.	PreL. 15,	4 Lasuen
Bullard, Corinne	Los Angeles	Hist. 73,	Alpha Omicron Pi
Bullard, Helen Talbott	Los Angeles	Hist. 102,	KappaAlphaTheta
Bullis, Ileen	Los Angeles	Hist. 111,	Alpha Phi
Bullis, James Stevenson	Los Angeles	PreL. 29,	Beta Theta Pi
Bundy, Florence Sorrita	Redwood City	Math. †15,	Redwood City-r
Burbank, William F.	San Francisco	C. E. 50,	4 Salvatierra
Burbeck, William Baldwin	Stanford Un.	E. E. 64,	Sigma Chi
[1]Buren, Anna Louise	Tacoma, Wn.	Graph. 25,	Alpha Phi
[2]Burlingame, Gladys Catharine	San Jose	Engl. †,	441 S. 2d, SJ-sj
[1]Burkham, Eleanor F. A. B., Stanford, 1913.	San Francisco	Engl. gr.,	25 Roble

[2]Burnand, Alphonse Adolph Los Angeles M. E., Delta Tau Delta
Burnham, Harold Ashley San Diego PreL. 10, 19 Lasuen
Burns, Eugenia Stewart Sunnyvale Graph. 74, 5 Cabrillo
Burns, William S. New York City, N.Y. Law 105, Phi Gamma Delta
Burrows, Harold H. Salt Lake City, U. Phyl. 63, 144 Encina
[1]Burt, Anna Howell Palo Alto Engl. gr., 616 Cowper-p
A. B., Butler, 1908; A. B., Chicago, 1908.
Bush, Rowena Caroline Redlands Engl. 88, Alpha Omicron Pi
Bussert, Leonardo Money Los Angeles E. E. 111, Acacia
Butcher, Alice Elia Santa Paula Hist. 49, Langworthy Club
Butcher, William P., Jr. Santa Barbara Law gr., 181 Encina
A. B., Stanford, 1913.
Butler, May Jacqueline Col.Springs, Col. Engl. gr., 38 Roble
A. B., Stanford, 1913.
Butterfield, David Rowland Palo Alto PreL. 6, 835 Middlefield-p
Cage, Albert Gallatin Riverside E. E. 88, Kappa Alpha
Cain, Ruth Salt Lake City, Utah Engl. 54, Madrono
Callanan, Joseph Ignatius San Francisco Med. †53, 2801 22d, SF-sf
Camp, Grace Cleone Palo Alto Chem. gr., 559 Cowper-p
A. B., Stanford, 1905.
Campbell, Alan Randolph Palo Alto Chem. 18, Beta Theta Pi
Campbell, Clarence P. Los Angeles M. E. gr., 128 Encina
A. B., Stanford, 1913.
[1]Campbell, Daniel Swan Joplin, Mo. PreL. 23, 18 Alvarado
Campbell, Edith Grace Palo Alto Educ. 41, 612 Waverley-p
Campbell, Erroll Preston Modesto C. E. 104, 11 Encina
Campbell, Frank Valpey Palo Alto Law 69, 612 Waverley-p
[1]Campbell, Harry Archibald Santa Cruz M. E. 8, 46 Encina
Campbell, Leon George Pasadena Econ. 44, Zeta Psi
Campbell, Samuel James Mt.Carroll, Ill. Econ. 105, Beta Theta Pi
Carbee, Gwin Wilbur Los Angeles C. E. 50, 59 Encina
Card, Thomas Adam Palo Alto Phyl. 72, 764 Channing-p
Carey, Thomas Sheridan Los Angeles M. E. 7, 620 Waverley-p
Carlin, Edwin William Marysville PreL. †3, Kappa Sigma
Carlton, Dave Pierce Riverside Geol. 93, 45 Encina
Carmody, Frank James Elmira, N. Y. Law sp. 58, 131 Encina
Carr, Brenton Stanley Los Angeles Law 58, Kappa Sigma
Carr, Mildred Douglas Alhambra Graph. 105, Pi Beta Phi
Carroll, Daniel Brendan Sydney, Aus. Geol. 28, Sigma Alpha Ep.
Carroll, Frederic Harrington Los Angeles Econ. sp. 10, Sigma Chi
Cartwright, James H., Jr. Oregon, Ill. Econ. 70, 161 Encina

Carus, Clayton Douglass Palo Alto Hist. gr. 424 Seneca-p
A. B., Stanford, 1913.
[1]Carus, Evelyn T. Little Rock, Ark. Hist. 121, 35 Salvatierra
Carus, Hazel Gertrude Palo Alto Phyl. 38, University Park
Cary, Edward Guilford San Francisco Med. sp., 2320 Clay, SF-sf
Cary, Irwin Denver, Colo. Econ. †12, Sigma Chi
Casad, Elizabeth Gail Oakland Hist. 42, 28 Roble
Cass, Donald S. Pasadena Phyl.-Med. 103, Zeta Psi
Cass, Quincy S. Pasadena PreL. 41, Zeta Psi
[1]Cassady, Frank E. Los Angeles C. E. sp., 11 Salvatierra
Castle, Otis Henry Pasadena Law 108, Delta Chi
Caton, Candace Orene Concordia, Kans. Hist. 107, 51 Roble
[3]Cavanagh, James Alfred Victoria, B. C. Engl. sp., Larkin Hotel
Chace, John Derrol San Jose PreL. 44, Delta Kappa Ep.
Chaffee, Frank Everett Pasadena Zool. 81, Sigma Alpha Epsil.
Chalfant, George Preston Boise, Idaho Law 81, 118 Encina
Chamberlain, Mellen Los Angeles Econ. 5, Delta Upsilon
Champion, Grace Colton Hist. 73, Langworthy Club
Chandler, Alice May Los Angeles Germ. 109, Alpha Omicron Pi
[2]Chandler, Franceska Los Angeles Educ. †, Alpha Omicron Pi
[1]Chandler, Kathleen San Diego Hist. 54, Pi Beta Phi
Chapin, Harold Addison San Jose Geol. sp. 42, 139 Encina
Chapman, Herbert Samuel Clayton Phyl.-Med. 103, Encina
Chapman, John Frye Redlands Med. gr., 2418 Wash., SF-sf
A. B., Stanford, 1909.
Chapman, Sherwood San Francisco Econ. 25, Kappa Alpha
Chapman, Wayne C. Pendleton, Ore. PreL. 8, Sigma Alpha Ep.
Chappel, Donald M. Batavia, N. Y. Econ. †13, 11 Salvatierra
Chase, Wheeler Forrester Los Angeles Graph. 3, Sigma Alpha Ep.
Check, Neoma Palo Alto Econ. 99, 627 Forest-p
Chislett, William, Jr. Los Angeles Lat. gr., 20 Lasuen
A. B., Stanford, 1910, A. M., 1912.
Choate, Nellita Naomi Los Angeles Engl. 20, Kappa Kappa Gam.
Christensen, Albert Eugene Audubon, Ia. C. E. 46, 75 Encina
von Christierson, Sigurd San Jose Phyl. 10, 108 Encina
[2]Chu, Neu Chun Canton, China Econ. †, 635 High-p
Chuck, Yoong Se Shanghai, China Econ. †7, 318 Emerson
Churchill, George Milton Claremont C. E. gr., 44 Encina
B. S., Pomona, 1911.
Claggett, Strabo Vivian Long Beach Econ. 108, Chi Psi
Clancy, Gertrude Margaret Riverside Hist. 42, Pi Beta Phi

Clark, Alvan Witcombe San Jose Econ. 81, 898 S. 8th, SJ-sj
Clark, Birge Malcolm Stanford Un. Graph. 101, 4 Cabrillo
Clark, Cecil James Ravenna, Nebr. Greek sp. 9, 22 Lasuen
Clark, Donald Francis Stanford Un. Econ. 5, 7 Alvarado
Clark, Douglas Menlo Park Geol. 113, Menlo Park-mp
[1]Clark, Edmund Starling Los Angeles M. E. 58, Zeta Psi
Clark, Hazel Redlands Graph. 75, Madrono
Clark, John Dustin Albuquerque, N. M. Chem. gr., 403 Tasso-p
B. S., New Hampshire, 1906, M. S., 1907.
Clark, Laura Cornelia San Jose Math. 75, 1022 Bird, SJ-sj
Clark, Laura Elizabeth Salem, Ore. Zool. 72, 33 Roble
Clark, Lena Irene Campbell Engl. †12, 324 Emerson-p
Clark, Mabel Edith Redlands Bot. 75, Madrono
Clark, Mabel Irene Ventura Germ. 108, 211 Byron
Clark, Paul Archibald Stanford Un. Hist. 51, 7 Alvarado
Clark, William Otterbein Milwaukee, Wis. Geol. gr., 904 Cowper-p
A. B., Stanford, 1906.
Clarke, James P., Jr. Little Rock, Ark. Geol. †10, Delta Kappa Ep.
Clattenburg, Herbert A. Eureka Phyl. 73, 189 Encina
Claussen, Thomas Hibben Sausalito C. E. 91, 177 Encina
Clawson, James Imre Los Angeles Econ. 79, Delta Upsilon
Clayton, Lawrence Salt Lake City, Utah Germ. 98, Los Altos-l
Clayton, Robert McM. Salt Lake City, U. Econ. sp. 14, Los Altos-l
Clifford, Mildred Elsie Burlingame Zool. †23, Burlingame-b
Cline, George Willis San Jose Med. gr., 349N.17th, SJ-sj
A. B., Stanford, 1914.
[2]Clithero, Electa Boise, Idaho Hist. 109, DeltaDeltaDelta
Close, Carlos Cooper Spokane, Wn. Law 116, Phi Kappa Psi
Close, Otha Harrison Orange Vale Educ. gr., 120 Encina
A. B., Stanford, 1913.
Clover, Philip Petrie Pasadena C. E. 110, DeltaKappaEp.
Clowe, Virginia B. Woodland Hist. 41, Pi Beta Ph[i]
Cluff, Alfred Thomas San Francisco Law 98, 83 Encina
Clute, Walker Stillwell Los Angeles Geol. 87, AlphaTauOmega
Clyne, Marguerite Ocean Park Hist. 109, 65 Roble
Coberly, Clarence James Los Angeles M. E. 74, AlphaTauOmega
[1]Cochrane, Helen San Francisco Hist. gr., LangworthyClub
A. B., Stanford, 1913.
Cody, Mervyn Joseph San Francisco M. E. sp. 49, CardinalClub
Coe, Harry Carson San Jose Phyl. 39, 4 Salvatierra
Coe, Wilbur F. Glencoe, N. M. PreL. 27, 39 Encina

Coffin, Chester LeRoy A. B., Stanford, 1913.	Reno, Nev.	Law gr.,	83 Encina
Coffin, Mila Lucille	Reno, Nev.	Zool. 50,	Delta Delta Delta
Coggins, Edith Irene	Germantown, Pa.	Engl. 75,	40 Roble
Cogswell, Elinor V.	Klamath Falls, Ore.	Engl. 62,	327 Emerson-p
Cokely, Leon Howard	Los Angeles	C. E. 7,	537 Hamilton-p
Cole, Charles Arthur	Ventura	E. E. 111,	Cardinal Club
Cole, Lloyd Ellsworth	Los Angeles	PreL. 4,	92 Encina
Coleman, Alfred Henry	Tacoma, Wn.	Geol. 10,	Delta Upsilon
[1]Coleman, Dave	Los Angeles	Geol. 20,	DeltaKappaEpsilon
[2]Colley, Helen Marie	Los Gatos	Fr. 13,	Kappa Alpha Theta
Collins, G. Carter	Los Angeles	Econ. 12,	Chi Psi
Colombet, Anita Barbara	San Jose	Educ. †,	45 N. 8th, SJ-sj
Comings, Grace Lunt	San Mateo	Chem. †29,	320 Elm, SM-sm
Conant, David Jordan	San Jose	M. E. 73,	Encina
Cone, William Laurence	Springville, U.	E. E. 71,	PeninsulaHospital
Conger, Guy Robert	Fresno	Econ. 37,	146 Encina
Conkling, Julia H.	El Centro	Math. 73,	DeltaDeltaDelta
Connell, George Albert	San Jose	Chem. 107,	151 Encina
Connelly, Stella Louise	Palo Alto	Hist. 43,	541 Cowper-p
Cook, Arthur G.	Campbell	M. E. sp. 9,	Campbell
Cook, Charles Franklin	Long Beach	PreL. 45,	263 Churchill
Cooke, John Daniel	Beloit, Kans.	Grk. 101,	310 Waverley-p
Cookman, Grace Olive	Los Angeles	Educ. 108,	1511 Waverley-p
[1]Cookman, John Randolph A. B., Stanford, 1914.	Los Angeles	Educ. 120,	216 Emerson-p
[1]Coombe, Ila Eloise	San Francisco	Hist. 113,	KappaKappaGam.
Cooper, Dorothy Joan	San Francisco	Hist. 61,	KappaKappaGam.
Cooper, Harold John	San Francisco	Phyl. 13,	Beta Theta Pi
Cooper, Lola Azella	Sanger	Engl. 86,	10 Salvatierra
Cooper, Warren Gosselin	Eureka	Geol. 126,	4 Encina
Coover, Margaret Evelyn	Palo Alto	Bot. sp. 134,	157 Bryant-p
Cornell, Vesta Maud	Long Beach	Germ. 28,	Alpha Phi
Cornwall, Edward Augustus	Redlands	Ent. 106,	80 Encina
Cory, Margaret Esther	Fresno	Hist. 51,	KappaKappaGam.
Cottrell, Joseph Paul, Jr. A. B., Stanford, 1914.	Colton	Law gr.,	178 Encina
[1]Couch, John Daniel	Palo Alto	Geol. 8,	657 Webster-p
Cowan, Floyd Wellesley	Fresno	Law 112,	Chi Psi
Cox, H. Ben	San Jose	Law 107,	32 Encina
Cox, Joel Bean	Honolulu, H. T.	C. E. 115,	51 Encina

[1]Cox, William Edward Hillsboro, Tex. Econ. gr., 21 Salvatierra
A. B., Texas, 1909, A. M., 1910.
Coyle, Albert Freeman San Jose Law 92, Faculty Club Hs.
Craig, John Long Beach Econ. 5, 5 Lasuen
Cram, Clara East Highlands Engl. 109, Pi Beta Phi
Crandall, Harriet Ruth Palo Alto Graph. 105, 737 Waverley-p
Crane, William Whitfield Oakland Phyl. 8, Sigma Nu
Crary, George Egleston Los Angeles PreL. 8, Kappa Sigma
Crawford, James Porter San Francisco Med. gr., 2320 Clay, SF-sf
A. B., Stanford, 1912.
Cressey, Josephine Modesto Germ. gr., Pi Beta Phi
A. B., Stanford, 1913.
Crim, Georgia Estelle San Francisco Hist. 24, Alvarado Hall
Crocker, Clarke Wilkins Selma C. E. 12, 54 Encina
Cronenwett, Fred McCall Monrovia C. E. 10, 93 Encina
[2]Crook, Maud L'Anphere Stanford Un. Engl. gr., 22 Lasuen
A. B., Utah, 1910.
[1]Crosby, Clara Santa Cruz Zool. gr., 66 Roble
A. B., Stanford, 1913.
Cross, Joseph Cameron San Francisco Engl. 12, Phi Delta Theta
Cullen, Thomas Joseph Gilroy Geol. 6, 160 Encina
Culp, Dorothy Escondido Lat. gr., 33 Roble
A. B., Stanford, 1913.
Cundiff, Stuart Albert Riverside Bot. 29, Kappa Alpha
Cuneo, Irene Rose Lucile San Mateo Educ. 88, Alpha Omicron Pi
Curler, Ben Vogel Elko, Nev. PreL. 6, Cardinal Club
Currier, Donald Locke Cupertino Ent. 72, 31 Encina
Curry, Mary Louise Palo Alto Engl. 61, 349 Hamilton-p
Curry, Walter Clyde Gray-Court, S. C. Engl. gr., 330 Waverley
A. B., Woffard College, 1909; A. M., Stanford, 1913.
Curtice, Louise Elizabeth Spokane, Wn. Hist. 94, AlphaOmicronPi
Curtis, Lucile Rose Los Angeles Hist. 76, AlphaOmicronPi
[2]Curtis, Meredith Anderson Los Angeles M. E. Sigma Nu
Curtis, Wallace Burdett Rochester,N.Y. M. E. 48, 357 Kingsley-p
Curtner, Marion Lucy Warm Springs Germ. 112, GammaPhiBeta
Curtner, William Weller Warm Springs Ent. 56, 100 Encina
Cushman, Eva Arabel Acme, Ore. Germ. 98, 57 Roble
Cuthbertson, Ernest James Manchester Law unc. 22, 625 Ramona-p
Dabney, Henry Renshaw Portland, Ore. PreL. 6, 2 Lasuen
Daniells, Nina Carrie Lindsay Hist. 87, 65 Roble
Daniels, Arthur Howard Redlands Law 78, Delta Chi

Darling, Eliza Edington Ventura Graph. 45, LangworthyClub
Darrow, Constance Lewiston, Mont. Lat. 102, Pi Beta Phi
Darsie, William Pettigrew Palo Alto Econ. 108, Phi Kappa Psi
Dart, Hazel Julia Spokane, Wn. Econ. gr., Pi Beta Phi
A. B., Stanford, 1913.
Daugherty, Robert Long Ithaca, N. Y. M. E. gr., Ithaca, N. Y.
A. B., Stanford, 1909.
Davidson, Elliott Emerson Palo Alto Geol. 8, 146 Encina
Davies, Ivor J. Evanston, Wyo. M. E. 34, 11 Salvatierra
Davis, Alexander W. Pomona Law 118, Theta Delta Chi
Davis, Byron Dade Highlands Bot. 11, 68 Encina
Davis, Charles Skinner Honolulu, T. H. Law 105, Acacia
Davis, J. Allen Los Angeles Law gr., DeltaKappaEpsilon
A. B., Stanford, 1912.
Davis, Julian Ralph Pomona Law 74, Theta Delta Chi
Davis, Kenneth Monroe San Francisco M. E. 33, Theta Delta Chi
[2]Davis, Ruth Colorado Springs, Colo. Educ. †, Alvarado Hall
Davy, Donald San Jose Econ. 75, Delta Kappa Ep.
Davy, Dorothy San Jose Graph. 59, KappaKappaGam.
Day, Carl Edwin Watsonville Law 112, 155 Encina
Day, Donald McLain Los Angeles C. E. 36, Cardinal Club
Day, Jack George Portland, Ore. PreL. 12, Zeta Psi
[1]Day, Mary Cynthia Los Gatos Lat. gr., Los Gatos-l
B. L., California, 1905.
Dayton, Leo Augustus Salinas PreL. 29, Delta Chi
Dean, Geneva Jane Colfax Math. 43, LangworthyClub
Decius, Harold Wesley Los Angeles Chem. 27, Zeta Psi
[1]Decius, Louis Courtney Los Angeles Geol. 120, Zeta Psi
A. B., Stanford, 1914.
Degnan, John Paul San Francisco Med. 104, 405 Emerson-p
A. B., Santa Clara, 1910, A. M., 1913.
Denhart, Harry John San Jose PreL. 42, 46 S. 14th, SJ-sj
Denhart, Helen Lucile San Jose Phyl. 57, 330 S. 6th, SJ-sj
[2]Dent, Leslie Ferdinand Berkeley Econ. 32, Beta Theta Pi
Detels, Martin Paul Palo Alto Law 99, 1055 Cowper-p
A. B., Santa Clara, 1912.
[1]DeVoto, Henry Ambrose Sonora Phyl. 40½, 2 Salvatierra
Diamonon, Victoriano Iloilo, P. I. Phyl. sp. 10, 14 Cabrillo
Dibell, Mabel Elizabeth Wolcott, Ind. Bot. gr., 64 Roble
A. B., Western College, 1910; A. M., Illinois, 1913.
Dickey, Frank Fletcher San Francisco M. E. 13, Zeta Psi

[1]Dickinson, Samuel Clifford	Hanna,Wyo.	Geol. gr.,	AlphaTauOmega
B. S., Wyoming, 1913.			
Dietrich, Waldemar Fenn	SanFrancisco	Geol. gr.,	608 Kingsley-p
A. B., Stanford, 1913.			
Dievendorf, Horton Harold	San Diego	C. E. 11,	Kappa Alpha
Dill, David Bruce	Hemet	Chem. gr.,	Encina
B. S., Occidental, 1913.			
Dimon, Asa Cyrus	San Jose	Econ. 108,	Delta Tau Delta
Dingley, Robert Gardner	Palo Alto	PreL. 10,	575 Kellogg-p
Dingley, Walter Frederick	Palo Alto	Chem. 45,	575 Kellogg-p
Dodd, John McKee	San Francisco	Chem. 101,	405 Emerson-p
Dodge, George Sinclair	Los Angeles	Econ. 65,	97 Encina
Dodge, John Wallace	Berkeley	C. E. 45,	19 Lasuen
Dolbow, Floyd Weeks	Spokane,Wn.	M. E. 11,	900 Waverley-p
deDombrowski, Bronislaw	St.Ptsbg.Rus.	Geol. sp. 10,	333 Waverley-p
Donaldson, Lorna Grace	Palo Alto	Engl. 42,	751 Webster-p
Donaldson, Robert Anders	Denver,Colo.	Engl. 11,	152 Encina
[2]Donovan, Elizabeth	San Jose	Fr. gr.,	Polhemus, SJ-sj
A. B., College of Pacific, 1914.			
Donovan, Mary Monica	San Jose	Phyl.-Med. gr.,	Polh., SJ-sj
A. B., College of Pacific, 1913.			
Dool, Donald George	Los Angeles	C. E. 75,	4 Lasuen
Dooling, Charles Wagner	Hollister	Law gr.,	85 Encina
A. B., Stanford, 1912.			
Dooling, John Thomas	Aurora, Ill.	Hist. 51,	Phi Kappa Psi
Dorn, Marion Victoria	Menlo Park	Engl. 39,	Menlo Park-mp
Dorroh, Terese Beatrice	Angels Camp	Engl. 35,	61 Roble
Downing, Edna LeRoyce	Pomona	Hist. 83,	Alvarado Hall
Downing, Russell Forrest	Los Gatos	Law 65,	33 Encina
Downing, Samuel Robert	Arcata	Med.gr.	Cy&Co.Hosp.SF-sf
A. B., Stanford, 1907.			
Drake, Benjamin F.	Santa Rosa	Bot. 26½,	167 Encina
[2]Draper, Roscal Leroy	Arroyo Grande	Phyl. gr.,	193 Encina
A. B., Stanford, 1913.			
Drury, Nan	San Diego	Hist. 93,	KappaAlphaTheta
Dubendorf, Horace Hayes	Palo Alto	Geol. 31,	801 Waverley-p
Duernberger, Frank Roscoe	Sunnyvale	Law 72,	Sunnyvale-s
[1]Duff, James Leo	Menlo Park	Graph. gr.,	Menlo Park
A. B., Stanford, 1913.			
Dugan, Gerald A.	Tonopah, Nev.	M. E. 5,	481 Univ.-p
Duncan, Freeman David	Campbell	C. E. 11,	31 Encina
Dunham, Bertram Ray	Corona	Chem. 97,	523 Forest-p

Dunlap, David Porter	Douglas, Ariz.	PreL. 40,	117 Encina
Dunlap, Marjorie Louise	Hanford	Graph. 46,	LangworthyClub
Dunlap, Willard Everett	Los Angeles	Geol. †33,	AlphaTauOmega
Dunlop, Florence Edetha A. B., Stanford, 1913.	Vale, Ore.	Med. gr.,	2318 Clay, SF-sf
Dunn, Henry Matthew	San Diego	PreL. 28,	Phi Gamma Delta
Dunn, Teresa Pauline	Monrovia	Hist. 107,	Langworthy Club
Dunnagan, Jesse Philips	San Jose	C. E. 102,	91 Encina
Dupuy, Florence Martha	Monrovia	Germ. 106,	60 Roble
Durgin, Eva Lillian	Cupertino	Phyl.-Med. 122,	Cupertino-c
Durgin, Rubie Mae	Cupertino	Phyl.-Med. 107,	Cupertino-c
[1]Durst, Ethel Helena A. B., Stanford, 1912.	Sunnyvale	Math. gr.,	Sunnyvale-s
Duryea, Margaret	Palo Alto	Econ. 71,	KappaAlphaTheta
Dutton, Earl Treff	Los Angeles	Educ. 63,	36 Encina
Dyer, Thomas Laffayette	Alva, Okla.	Econ. 104,	96 Encina
Dykes, Earl Taylor	Stafford, Kans.	Phyl. 27,	301 Kipling-p
Easterday, Robert Oscar	Palo Alto	Chem. 41,	578 Lowell-p
Eastey, Julia Mildred A. B., Stanford, 1913.	San Jose	Hist. gr.,	Madrono
Eaton, Ernest Wolfe	Los Angeles	Econ. 42,	129 Encina
Edwards, Alfred Rice	Palo Alto	Law 78,	707 Melville-p
Edwards, Elizabeth	Palo Alto	Hist. 26,	707 Melville-p
Edwards, Helen Margery	Palo Alto	Zool. 13,	35 Roble
Edwards, Noel Condiff	Los Angeles	Econ. 95,	2 Encina
Egbert, Dorothy Barnes	San Francisco	Graph. 53,	Alpha Phi
Ehrenclou, Alfred Hjalmar	Redlands	Med. 123,	1938 BuchananSF
Eib, Charles Rapheous	College City	Phyl. 10,	Mt. View-m
Eigenmann,CharlotteE	BloomingtonInd.	Germ. †,	83 Roble
Elden, John Francis, Jr.	Los Angeles	PreL. 56,	4 Lasuen
Ellias, Laura Lillian	Glendale	Engl. 81,	88 Roble
Elliott, Christabel	Stanford Un.	Educ. 47,	16 Madrono
Elliott, Harold Farley	Prescott, Ariz.	M. E. 47,	160 Encina
Elliott, Norman Almstead	BakerCity,Ore.	Chem. sp. 12,	Acacia
Ellis, Leon	Spokane, Wn.	Law 111,	Delta Tau Delta
[2]Ellis, Lona Evelyn	Pacific Grove	Graph. 105,	Mariposa
Ellison, Phyllis Margaret	Woodland	Engl. 4,	Pi Beta Phi
Elsey, George Wendell	Modesto	M. E. 42,	13 Encina
Elsey, Howard McKee	Modesto	Chem. 107,	13 Encina
Emerson, James Gordon B. S., Iowa State College, 1912.	CharlesCity,Ia.	Law gr.,	2 Lasuen

Emery, Allen Lee	Portland, Ore.	PreL. 13,	Phi Kappa Psi
[1]Emmons, Marjorie Florence	Alameda	Hist. 120,	KappaKappaGam.
A. B., Stanford, 1914.			
Endersby, Victor Arthur	Ukiah	C. E. 83,	College Terrace
Engels, Emil Edward	Seattle, Wn.	M. E. 23,	232 Lytton-p
English, Floyd Everett	Cupertino	PreL. 7,	105 Bryon-p
[2]English, Henry Rowland	Oakland	Educ. 34,	College Terrace
Enke, Melinda	Portland, Ore.	Lat. 42,	Delta Gamma
Erb, Arthur Leslie	Tacoma, Wn.	Law 75,	SigmaAlphaEp.
Erickson, John Michael	Medford, Wis.	Law unc. 40,	Acacia
Erwin, Lewis Brown	Kalamazoo, Mich.	E. E. 110,	115 Encina
Esaki, Ko	Berkeley	E. E. 79,	Japanese Club
[1]Eschricht,AlbertFrederick	Portland,Ore.	Law †,	549 Cowper-p
Española, Nicolas Solis	Colasi, P. I.	Phyl. sp. 13,	433 Melville-p
Eustace, Marie Genevieve	Pacific Grove	Germ. 111,	Langworthy Club
Evans, David Lloyd, Jr.	Malad City, Ida.	E. E. gr.,	88 Encina
A. B., Utah, 1911.			
Evans, Emlyn H.	Johnstown, Pa.	PreL. 9,	3 Encina
Evans, Errol Southworth	Riverside	M. E. 84,	21 Lasuen
Evans, Margaret Reese	Palo Alto	Phyl. 13,	831 University-p
[2]Evans, Samuel	Oak Park, Ill.	M. E.,	Alpha Tau Omega
Evenson, WillardTaylor	Clatskanie,Ore.	PreL. 13,	17 Salvatierra
Everett, Eileen Erica	Orange	Hist. 105,	AlphaOmicronPi
Everly, Vera Leona	Nampa, Ida.	Engl. 96,	Mariposa Club
Everson, Susie May	Palo Alto	Germ. 69,	310 High-p
Eyer, William Knowlton	Los Angeles	PreL. 8,	Phi Gamma Delta
Fabling, Harry Creed	Denver, Colo.	C. E. 28,	5 Lasuen
Fairclough, Katrine R.	Stanford Univ.	Hist. 109,	6 Alvarado
Faitoute, Florence Benedict	Hanford	Engl. 42,	27 Roble
[2]Faris, Alvis Guy	Austin, Tex.	Chem. gr.,	5 Lasuen
A. B., Stanford, 1912.			
Farrar, Irwin Elmer	Corona	PreL. 43,	840 Bryant-p
Farrell, Amy L.	Salt Lake City, U.	Fr. 42,	14 Roble
Farris, Fauna Wynne	Palo Alto	Engl. sp. 43,	315 Everett-p
Ferguson, Bessie Tee	Colfax, Wn.	Engl. 107½,	1098 Emerson-p
Ferris, Gordon Floyd	Modesto	Ent. 50,	2 Lasuen
Field, Oliver C.	Ketchikan, Alaska	M. E. 10,	21 Lasuen
Field, William Richards	San Jose	Phyl. 10,	Delta Tau Delta
Finch, Robert McMaster	Los Angeles	Econ. 91,	Chi Psi
[1]Finch, Wade Thomas	Los Angeles	PreL. 43,	Chi Psi
Finney, Florella Kelso	Modesto	Phys. 110,	21 Madrono

Finney, Mabel Consuelo Modesto Phyl. 105, Madrono
Fisher, Albert B. Salt Lake City, Utah PreL. 47, Phi Kappa Psi
Fisher, Elizabeth Grace Elgin, Ill. Zool. gr., 66 Roble
A. B., Wheaton College, 1910.
Fisher, Hale Baker, Jr. Palo Alto Econ. 7, 875 University-p
Fisher, Hazel Margaret Penryn Germ. 55, 31 Roble
Fithian, Robert Graham Portland, Ore. PreL. 17, Zeta Psi
[1]Fitzgerald, Harold John Dinuba Econ. 25, Encina
Fitzhugh, James McClung Los Angeles C. E. 41, 121 Encina
Flack, Augustus Sloan Los Angeles Law 79, Delta Chi
Flatau, Elsa Los Angeles Educ. 99, Alpha Omicron Pi
Fletcher, Hal B. Palo Alto Chem. 8, 305 Hamilton-p
Flint, John Donovan Palo Alto Law 61, 841 Bryant-p
Flood, Thomas B. Tonopah, Nev. C. E. 2, 195 Encina
Floodberg, Ralph Arnold San Francisco PreL. 28, PhiGammaDelta
[1]Flores, Gabriel P. Manila, P. I. Med. gr., 947 GdnGate,SF-sf
B. S., Chicago, 1904, M. S., 1905, Ph. D., 1909.
Flügel, Felix Palo Alto Econ. 107, 1153 Cowper-p
Flynn, Francis North Platte, Nebr. E. E. 68, 52 Encina
[1]Forbes, Frederick B. Albuquerque, N.M. Geol. 134, 184 Encina
A. B., Stanford, 1914.
Forbes, Margaret Irving Palo Alto Germ. 52, KappaKappaGam.
Forbes, William Boomer Los Angeles Law 75, Delta Upsilon
Ford, EdwinHopkins Minneapolis,Minn. Engl. 96, Kappa Alpha
de Forest, Clara Marie Palo Alto Econ. 41, 950 University-p
Forsberg, John Harold Portland, Ore. C. E. sp. 9, 2 Lasuen
Fortin, Adele Julie Los Angeles Educ. 70, Delta Gamma
[1]Foss, Henry Osander Tacoma, Wn. Econ. 22, Sigma Chi
Foster, Frederick Leland Corona Law gr., 116 Encina
A. B., Stanford, 1914.
Foster, Harold Reed Williams, Ia. Educ. gr., Manzanita Hall-p
A. B., Simpson College, 1913.
Foster, Marjorie Greene San Rafael Chem. 107, Madrono
Foulke, Charles Leslie Rialto C. E. 105, 169 Encina
Fout, Edmond Eugene Palo Alto Econ. 24, 1021 Cowper-p
[1]Fowler, Frederick Hall Palo Alto C. E. gr., 221 Kingsley-p
A. B., Stanford, 1905.
Fowler, Harry Clarence Paso Robles C. E. 80, 67 Encina
Fox, Byron Parlier Seattle, Wn. Geol. 40, 825 Cowper-p
Franceschi, Franco E. F. Santa Barbara C. E. 48, 136 Encina
[2]Frank, Lawrence Phillip Los Angeles PreL., 66 Encina

Franks, Wm. Taylor Grd. Junc., Colo. M. E. sp. 10, 19 Lasuen
Frantz, Harry Warner Los Angeles Econ. 12, 4 Lasuen
Frary, Gladys May San Diego Educ. 105, DeltaDeltaDelta
Freed, Victor Seattle, Wn. Phyl. 10, 11 Salvatierra
Freeman, HenryAddison CentralPt.Ore. PreL. 9, 34 Encina
Freeman, Stuart Portland, Ore. PreL. 17, Zeta Psi
[2]French, Norman Du Gard Thomson, Ill. Law 117, Sigma Chi
Frost, Marion LeRoy Redlands PreL. 45, Delta Chi
Frye, Henry Abraham San Francisco Econ. 10, 325 Hamilton-p
[3]Fulmer, L. Roy Los Gatos Educ. gr., Los Gatos-l
A. B., College of Pacific, 1900; B. S. T., Boston University, 1904.
Funke, Henry William Blue Hill, Nebr. Law gr., Delta Chi
B. S., Hastings College, 1908.
Funsten, Betty Glover San Francisco Hist. 107, KappaKappaGam
[1]Furnish, William Eldon Portland, Ore. Econ., Chi Psi
Furst, Elise Paul San Jose Phyl. †20, 840McKend.,SJ-sj
[1]Fyfe, Andrew Douglas Los Angeles Geol. gr., Delta Upsilon
A. B., Stanford, 1913.
Gabine, Bernard Zürich, Switzerland Phil. 104, 1146 Waverley-p
Gagos, Kurken M. Fowler M. E. 14, 567 Melville-p
Galbreath, Neva L. Columbia City, Ind. Educ. gr., 5 Madrono
A. B., Indiana, 1913.
Gamble, Florence Hanford Graph. 95, Pi Beta Phi
[1]Gamble, Launcelot John Palo Alto M. E. 88, 1431 Waverley
[1]Gamboni, Frederick Alger Stockton C. E. sp. 6, 195 Encina
Gard, Frank Jacob Glendora Chem. 106, PhiGammaDelta
Gard, Mary Carolyn Glendora Hist. 70, Alpha Phi
Gardiner, Joyce Ada Santa Barbara Zool. 72, 55 Roble
Gardner, Laurence Dickenson Ventura Chem. 10, 82 Encina
Gardner, Sydnie Aileen Los Angeles Math. gr., 21 Salvatierra
A. B., Stanford, 1913.
[2]Gareau, Joseph Rodolphe Victoria,B.C. Bot. sp., 22 Lasuen
Garlinghouse, AlbertFrederick San Jose C. E. 105, 183 Lytton-p
[1]Gartz, Adolph Frederic, Jr. Altadena PreL., Beta Theta Pi
Garver, Jean Juliette Des Moines, Ia. Germ. 106, Delta Gamma
Gary, Foster Wilber Joplin, Mo. M. E. 4, 18 Alvarado
Gaston, Mary Hope Los Angeles Germ. 78, Alpha Phi
Gates, Florence Mabel So. Pasadena Fr. 69, KappaKappaGamma
Gates, Fred Herbert So. Pasadena Hist. 68, PhiGammaDelta
Gates, Philip G. Crossett, Ark. Econ. †, 18 Alvarado
Gazlay, Frank Andrews San Diego PreL. 10, Kappa Alpha

Gearhart, William Edgar A. B., Iowa, 1913.	Batavia, Ia.	Law gr.,	471 Channing
[2]Geppert, Ralph Clinton	Vermillion	E. E. 93,	325 Alma-p
Gerwin, Vera Marian	Redwood City	Hist. 102,	Redwood City-r
Gibb, James Albert	Aiea, H. T.	M. E. 54,	Phi Kappa Psi
Gibbel, Naum Winfield	Berkeley	M. E. 56,	144 Encina
Gibson, Eric John L.	Melbourne, Aust.	Econ. 123,	172 Encina
Gifford, Bessie Louise	Lewiston, Ida.	Graph. †13,	KappaAlphaTh.
Gilbert, Carl Hughes A. B., Stanford, 1913.	Palo Alto	Law gr.,	64 Encina
Gilbert, Mildred Louise	Sausalito	Engl. 94,	Gamma Phi Beta
Gilbert, Ramon A. B. S., California, 1913.	San Francisco	Med. gr.,	3987 18th, SF-sf
[2]Gilchrist, Margaret Josephina	San Jose	Engl. 74,	460 N. 3rd, SJ-sj
Gill, Gerald Forbes	Palo Alto	C. E. 65,	179 Encina
[1]Gillelen, Lute Grason	Los Angeles	PreL. 5,	Kappa Sigma
Gillespie, Paul Shaffner	Anoka, Minn.	Econ. 44,	Theta Delta Chi
Gilliland, Otho James	Altoona, Pa.	Bot. 40,	167 Encina
Gilroy, William	Santa Monica	PreL. 9,	567 Forest
Girdner, Margaret Virinda	Sacramento	Hist. 82,	465 University-p
Gladstone, Dwight Beckwith	Palo Alto	M. E. 10,	603 Waverley-p
Glass, William Winslow	Pasadena	C. E. 107,	Theta Delta Chi
Gleason, Rutherford Erwin	Palo Alto	Math. 106,	1225 Byron-p
[1]Gober, Helen Porter A. B., Stanford, 1914.	Los Gatos	Chem. 131,	Los Gatos
Goddard, Win Rawdon	Conneaut, Ohio	Chem. 110,	183 Lytton-p
Goes, Frederick T.	Milwaukee, Wis.	M. E. sp. 25,	4 Lasuen
Goldberg, Edward	Washington, D. C.	Econ. 6,	720 Cowper-p
Golden, Abram Lee A. B., Colorado, 1913.	Billings, Mont.	Law gr.,	559 Cowper-p
Goldsmith, Arthur A.	Los Angeles	PreL. 63,	107 Encina
Good, Roy Milton	Marshalltown, Ia.	Econ. 89,	Cardinal Club
Goodman, John Harvey	Berkeley	Econ. 39,	DeltaKappaEpsilon
Goodrich, Elizabeth Ely A. B., Vassar, 1907.	San Jose	Med. gr.,	2335 Pac. Ave. SF-sf
Goplerud, Clifford Peter	Osage, Ia.	C. E. 102,	Kappa Alpha
Goss, Hazel Stevenson	Denver, Colo.	Math. 108,	63 Roble
Gower, Frances Anna A. B., Stanford, 1913.	Los Angeles	Lat. gr.,	56 Roble
[1]Gragg, Alden Orville	San Luis Obispo	Econ. 115,	ThetaDeltaChi
Graham, Frances Boswell	Pomona	Hist. 59,	KappaAlphaTheta

Graham, Helen Marie — Palo Alto — Grk. 43, — 419 Florence-p
[1]Grandy, Frank Louis — Norfolk, Va. — Engl.†, — HotelVendome,SJ-sj
Grant, Richard Harry — Portland, Ore. — PreL. 11, — PhiGammaDelta
Grass, Donald Frederic — Palo Alto — Econ. gr., — 170 Waverley-p
A. B., Harvard, 1889, A. M., 1899.
Grau, Fritz Seymour — Sacramento — Econ. 56, — Sigma Nu
Graves, John Maddux — San Francisco — Phyl. 50, — 12 Salvatierra
Graves, Olin Wright — Bostonia — Econ. 79, — 454 Homer-p
Gray, Agnes Kendrick — Atlanta. Ga. — Fr. 75, — 11 Alvarado
[2]Gray, John — Ukiah — Phyl., — Menlo Park-m
Gray, Mary Emily — San Jose — Engl. 101, — DeltaDeltaDelta
[1]Green, Alison — San Mateo — E. E. 8, — Kappa Alpha
Green, Boynton Morris — Redlands — M. E. 109, — 171 Encina
Green, Carol May — Pasadena — Econ.109, — KappaAlphaTheta
Green, Charles Havens — Petaluma — E. E. 114, — 49 Encina
Green, Charles Keith — Los Angeles — C. E. sp. 9, — 11 Salvatierra
Green, Hazel Elizabeth — Stanford Un. — Econ. 106, — 13 Salvatierra
[1]Green, Sidney Sherwood — Long Beach — Law 106, — 4 Salvatierra
Green, Waldron A. — Pasadena — Geol. 43, — Delta Upsilon
Greene, Virginia Eleanor — San Francisco — Econ. 22, — 10 Roble
Greenfield, Lieurena Cole — St. Helena — Engl. gr., — 54 Roble
A. B., Stanford, 1913.
[1]Gregg, John Price — Portland, Ore. — Law gr., — Cardinal Club
A. B., Stanford, 1913.
Gregory, Alfred Craven — San Francisco — C. E. 78, — Beta Theta Pi
Griffin, Albert Devereaux — Los Angeles — C. E. 12, — College Terrace
Griffin, Raymond Rudolph — Salinas — PreL. 12, — Delta Chi
Griffin, Robert Allen — Kansas City, Mo. — Eng. 11, — Phi Delta Theta
Griffin, Roscoe Wadsworth — Vallejo — Law gr., — 158 Encina
A. B., Stanford, 1913.
Griffith, William — Anaconda, Mont. — PreL. 8, — 19 Lasuen
[1]Griswold, Joseph W. — Shelb. Falls, Mass. — M. E. 9, — 305 Cowper-p
Gross, Wilmer Jackson — San Jose — Econ. 49, — DeltaKappaEp.
Grounds, Effie — Fresno — Hist. 39, — Langworthy Club
Grove, Albertina Harriet — Palo Alto — Educ. 100, — 363 Melville-p
[2]Gulling, Grace Eleanor — Fallon, Nev. — Graph. 108, — 460 Homer-p
Gunn, Milton Curtiss — Helena, Monr. — PreL. 43, — 18 Alvarado
Gunnell, Dorothy P. — SaltLakeCity,Utah — Span. 105, — 21 Salvatierra
Guthrie, Esther Lee — Woodland — Educ. 75, — 26 Roble
[1]deHaas, Jacob Anton — Stanford Un. — Econ. gr., — 358 Homer
A. B., Stanford, 1910; A. M., Harvard, 1911.

[3]Hackett, Harold Arthur Phoenix, Ariz. M. E. 121, Boathouse
A. B., Stanford, 1914.
Hadden, Fannie Palo Alto Chem. 36, 1157 Ramona-p
Haegele, Rowland Wells Helena, Mont. Ent. 75, 18 Alvarado
Hagen, Milton Abel Los Angeles Engl. 57, Encina
Hager, John Manfred Los Angeles Econ. 88, 36 Encina
Haggart, GilbertEdmund Durango,Colo. Phyl. 72, Delta Upsilon
Hagman, George Lewis Louisville, Ky. Med. gr., 530 Scott, SF-sf
B. S., Purdue, 1907.
Hahn, Herbert Leonard Pasadena PreL. 39, 176 Encina
Haight, Marjorie Buell Alameda Hist. 102, Delta Gamma
[3]Hale, Warren Lester E.Hartford,Conn. PreL. †, Delta Kappa Epsil.
Hall, Cora Mae Mt. Vernon, Wn. Hist. 106, 50 Roble
Hall, Elwin Benoni Los Angeles Geol. 93, Beta Theta Pi
Hall, Lucy Alice Palo Alto Rom.Lan.13, 346Waverley-p
Halm, Arthur Gainsford Phoenix,Ariz. Econ. 92, Delta Upsilon
Halsted, Samuel Thompson Riverside C. E. 12, Beta Theta Pi
Ham, William Thomas Las Gatos Engl. gr., College Pac., SJ-sj
A. B., College of Pacific, 1913.
[2]Hamaker, Rex Gerome Los Angeles C. E. 27, PhiGammaDelta
Hamilton, Frederick C. Cranford, N. J. Econ. 70, 104 Encina
Hamlin, Thornton Pasadena C. E. 40, Chi Psi
Hammel, John Calvin Ontario Law 72, 33 Encina
Hammon, Glenn A. San Francisco M. E. 11, Phi Delta Theta
[1]Hammon, Wendell C. San Francisco Geol. 120, Phi Delta Theta
A. B., Stanford, 1914.
[3]Hammond, James Morris Oakland Law sp. unc., 18 Alvarado
Hammond, Philo Fay Cresco, Ia. Phys. gr., 467 Everett-p
A. B., Washington, 1907.
Hampton, Fred George Hardwick M. E. †12, 532 Forest-p
Hanna, Amy Margaret Waveland, Ind. Fr. 48, Kappa Alpha Theta
Hanna, Gladys Long Beach Hist. 72, KappaKappaGam.
Hannibal, Edna Anne San Jose Zool. 83, 49 Roble
Hannibal, Harold Briggs San Jose Geol. gr., 139 Encina
A. B., Stanford, 1913.
Hansen, Carl Melvin Kensett, Ia. Lat. gr., 2 Lasuen
A. B., Luther College, 1912.
Harbour, Nina Orange Hist. 90, 36 Roble
[4]Harcourt, Reginald Mt. View C. E. 3, Mt. View-m
[3]Harding, Edwin R. San Bernardino Chem. gr., 177 Encina
A. B., Stanford, 1913, A. M., 1914.

Harding, Hal Calvin — Los Angeles — Econ. 105, Alpha Tau Omega
Harkins, Paul Franklin — Ashland, Ohio — Phyl. 26, Alpha Tau Omega
Harrier, Alice Miriam — Palo Alto — Engl. 103, 1400 Waverley-p
Harrigan, John Hand — Los Angeles — Chem. 100, Beta Theta Pi
Harrington, Leo Walter — Tonopah, Nev. — PreL. 34, 14 Encina
Harris, Ronald Biddle — Fresno — PreL. 10, Chi Psi
Hartwell, Hazel Louise — San Diego — Math. 40, Alpha Omicron Pi
Hartwell, Marian Lila — Santa Barbara — Hist. 75, Mariposa Club
Hartwig, Charles Henry — Los Angeles — Med.gr., Student Guild Hosp.
A. B., James Milliken University, 1909.
Harvey, Henry Rakestraw — Phoenix, Ariz. — PreL. 39, 79 Encina
Hashiba, George — San Francisco — Phyl. 105, 12 Cabrillo
Hastings, Edmund A. — Oregon, Ill. — Econ. 79, Delta Kappa Ep.
Hastings, James Uhler — San Jose — PreL. 10, Alpha Tau Omega
Hastings, Warren — San Jose — E. E. 120, Alpha Tau Omega
Hatch, Chesley Warde — Modesto — PreL. 44, Delta Tau Delta
Hatch, Vivian DeWitt — Escondido — C. E. 5, 332 Channing-p
Haub, Alma Anita — Santa Rosa — Phys. 107, 39 Roble
[2]Haughton, Thomas Jefferson — Santa Ana — PreL., Chi Psi
Hawk, Raymond Franklin — Spokane, Wn. — Chem. 12, 219 Ramona-p
Hawkins, Effie Izah — Palo Alto — Educ. 105, 313 Waverley-p
Hawkins, Sam Miller — Watsonville — Econ. sp. 50, 131 Encina
[1]Hawks, Charles B. — Shelburne Falls, Mass. — Phyl., 305 Cowper-p
Hawley, Henry James — Portland, Ore. — Geol. 45, 157 Encina
[2]Hayashi, Kinsaku — Chiba, Japan — Zool. †, Japanese Club
Haydock, Evelyn Gladys — San Jose — Math. 45, 487 N. 5th, SJ-sj
Hayes, Allan Sidney — Pasadena — Geol. 32, Zeta Psi
Hayes, Elystus Lyon — Edenvale — PreL. 45, Phi Delta Theta
Hayes, Francis William — Cupertino — Geol. 84, Cupertino-c
Hayes, Jesse Ernest — Campbell — C. E. 110, 151 Encina
Hayes, Percy Julian — Bakersfield — Chem. 37, 121 Encina
Haynes, Harold Douglas — Greeley, Colo. — Econ. 4, 202 Encina
Hazard, Helen Greta — Whittier — Span. 109, Delta Gamma
Heath, John — Palo Alto — Hist. 87, 382 Lincoln-p
Hefflefinger, Orval Jewel — Tulare — PreL. 43, 82 Encina
Heller, Walter D. — Menlo Park — Econ. 23, 66 Encina
[1]Helmick, Grace Raymond — Helena, Mont. — App.Math.gr., Gam. Phi Beta
A. B., Stanford, 1913.
[1]Helsley, Gordon Friedrich — Ceres — Phyl.-Med. 105, 148 Encina
[1]Helwagen, Carl Wilhelmj — Circleville, O. — M. E. 108, 515 Waverley-p
Hempl, Elsa — Stanford Un. — Germ. 87, 8 Cabrillo

Hempl, Hilda Stanford Un. Bact. gr., 8 Cabrillo
A. B., Stanford, 1914.
[1]Henderson, Cecilia Santa Paula Lat. 68, 10 Salvatierra
Henderson, Edward Santa Paula Law 71, 58 Encina
Henderson, Hugh Murphy Palo Alto M. E. 91, 551 Addison-p
Henderson, James William Eureka Law gr., SigmaAlphaEpsilon
A. B., Stanford, 1912.
Henderson, John T. Portland, Ore. Hist. 69, 333 Waverley-p
[1]Henderson, Sam C. Los Angeles Econ., Mariposa Hotel-p
Henking, Frederica San Diego Graph. 11, Pi Beta Phi
Henning, Marbry Thurber ElPaso,Tex. Math. 111, Alpha Phi
Henningsen, Bertha Clara Pueblo,Colo. Math. 75, 31 Roble
Henningsen, KathleenG. Glenbrook,Nev. Zool. 104, DeltaDeltaDelta
Henry, Mabel Gertrude Los Angeles Math. 79, DeltaDeltaDelta
Hensel, George Carl Eureka, Utah Phyl. 8, 69 Encina
Herrick, Florence South Medford, Ore. Engl. 100, 35 Roble
Herring, John Lehman Long Beach Econ. 52, 43 Encina
Herron, Laura Elizabeth Palo Alto Educ. 94, 105 Emerson-p
Herron, Mary Louise Palo Alto Hist. gr., 105 Emerson-p
A. B., Stanford, 1912.
Hess, Leon Ralph Bakersfield Chem. 11, 93 Encina
Hess, Walter Baltimore, Md. C. E. †, 88 Encina
Hettinger, Albert John, Jr., Fowler Econ. 52, Faculty Club
Hews, Hayden Lewis Long Beach PreL. 10, 3 Encina
Heynemann, George San Francisco Law 105, 79 Encina
Hickman, CarletonManville Sacramento Econ. 23, Delta Tau Delta
[1]Hidden, Charles Emerson Portland,Ore. Econ. † 12, PhiGammaDelta
Higgins, Archibald W. Hockley, Eng. E. E. sp. 125, 386 Lincoln-p
Higgins, Preston Leroy Cupertino Law 47, Theta Delta Chi
Higgins, Robert Valentine Santa Maria Engl. 47, 35 Encina
Higgins, Ward Frank Alameda PreL. 8, Kappa Sigma
Higley, James Stephen Phoenix, Ariz. PreL. 10, Chi Psi
[2]Higley, Wynter Blain Pasadena Phys. gr., 646 Waverley-p
A. B., Stanford, 1909.
Hilby, George Robert Monterey Geol. 106, 157 Encina
Hill, Charles Albert Moline, Kan. Law gr., 9 Encina
A. B., Stanford, 1913.
Hill, Clarence Sylvester Parma, Ida. Law 106, 171 Encina
[3]Hill, Cornelius Palmer Los Angeles C. E. sp., Beta Theta Pi
[1]Hill, Frank Ernest San Jose Engl. gr., Encina
A. B., Stanford, 1911.

Hills, Harry Sawyer — Oroville — PreL. 33, — 146 Encina
Hinds, Joel Henry — Porterville — C. E. 55, — 424 High-p
Hirao, Ren — Hiyogo Ken, Japan — Engl. 44, — Japanese Club
Hirasawa, Teru Hico — San Francisco — C. E. 79, — Japanese Club
Hiratsuka, Saburo — Los Angeles — Econ. 37, — Japanese Club
Hitchcock, Jeanette McC. — Tacoma, Wn. — Fr. 85, — 4 Madrono
Hively, Vera Grayce — Coalinga — Engl. 34, — 28 Roble
Hobson, Celesta — San Jose — Graph. 85, — 324 Emerson-p
Hodges, George Charles — Palo Alto — Hist. 35, — 453 Channing-p
Hoefgen, Lena Brooks — Palo Alto — Graph. 42, — 221 Byron-p
Hoernig, Ottilie Katharine — Mt. View — Germ. 76, — Mt. View-m
[3]Hoever, August Joseph — Willows — C. E., — Theta Delta Chi
Hoffman, Alice Maye — Los Angeles — Engl. 106, — 20 Madrono
Hoffman, Henry Ray — Los Angeles — Econ. 108, — 179 Encina
Hogg, Elton Marion — Saratoga — Chem. gr., — Acacia
A. B., College of Pacific, 1912; A. M., Stanford, 1913.
[3]Hoisholt, George Greiersen — Oakdale — Hist. 85, — College Terrace
Holcomb, Clare — Boise, Ida. — Hist. 42, — Mariposa Club
Holden, Henry A. — Ticonderoga, N. Y. — Geol. 71, — 454 Hamilton-p
[1]Holeman, George Stevenson — Riverside — Med. gr., — 76 Encina
A. B., Stanford, 1913.
Hollister, Felton Stow — San Luis Obispo — Econ. 41, — Phi Delta Theta
Hollmann, Emil Frederic — Oakland — Med. gr., — 56 Encina
A. B., Stanford, 1911.
Hollmann, Esther Karleene — Oakland — Phyl. 31, — 27 Madrono
[2]Holloway, Godfrey Ernest — Helena, Mont. — Chem. 20, — 183 Encina
Holmes, Henry Perry — San Francisco — M. E. 25, — AlphaTauOmega
Holmes, Milton Lyle — Hilo, Hawaii — Econ. 9, — 22 Lasuen
Holt, Inezetta — Redding — Hist. 104, — 243 Byron-p
Holt, Jessie Muriel — Imperial — Hist. 10, — Delta Gamma
Holverson, Frederick A. — San Diego — M. E. 33, — Kappa Alpha
[1]Holzaepfel, Norman R. — Sandusky, O. — C. E. †3, — P. A. Hotel
[1]Hook, Bertha Louise I. — San Bernardino — Germ. gr., — 31 Roble
A. B., Stanford, 1912.
Hooker, Ora Whitley — Los Angeles — Educ. 85, — San Carlos-s
Hopwood, Clyde Charles — Palo Alto — C. E. 60, — 319 Alma-p
Horiuchi, Shigehito — Yamanoshi-Ken, Jap. — E. E. 113, — 131 Cowper
Horner, William Foster — Honolulu, T.H. — Econ. 6, — Sigma Chi
Horton, Harry Winters — San Diego — Law sp. unc. 8, — Delta Chi
Horton, Helen Clifford — Pasadena — Germ. gr., — 54 Roble
A. B., Stanford, 1914.

Houghton, Harold Clemens	Berkeley	Engl. 25,	Phi Kappa Psi
Houghton, Harry Sumner	Santa Cruz	M. E. 129,	Kappa Sigma
House, EarlLaFayette	ForestGrove,Ore.	Engl. †7,	1a Alvarado
Howard, Emily	Stanford Un.	Germ. 44,	9 Alvarado
Howard, Graeme K.	Stanford Un.	Econ. 12,	Delta Tau Delta
Howard, Grenville Gates	Stanford Un.	Geol. 81,	9 Alvarado
Howard, Vivian Mildred	Palo Alto	Educ. 103,	737 Channing-p
Howe, Mollie Margaret A. B., Stanford, 1914.	Chicago, Ill.	Lat. gr.,	527 Emerson-p
Howell, Bertha Blanchard A. B., Northwestern, 1912.	Evanston, Ill.	Phys. gr.,	33 Salvatierra
Howes, John Gaylord Yates A. B., Stanford, 1914.	Center,Kan.	Hist. gr.,	219 Ramona-p
Hubbard, Gordon Alden	Palo Alto	C. E. 8,	567 Forest-p
Hubbs, Carl L.	Los Angeles	Zool. 48,	720 Cowper-p
Hudson, Elmer Franklin	San Jose	C. E. 104,	Theta Delta Chi
Hughes, Glenn Arthur	Long Beach	Educ. 34,	Cardinal Club
Hughes, John E.	Tucson, Ariz.	Econ. 60,	141 Encina
Hughes, LaFayette Ritter	Los Angeles	Graph. sp.	21, 4 Lasuen
[1]Huiskamp, Henry Christian	Keokuk, Ia.	Econ. 121,	PhiGammaDelta
Hulsman, Ivan M.	Susanville	Geol. 64,	18 Alvarado
Hume, Dorothy	Los Gatos	Fr. 7,	Madrono
Humphry, Cora Viola	Cupertino	Hist. 111,	Cupertino-c
Hunley, John Berdell	Newton, Wn.	Geol. 114,	147 Encina
Hunt, George Walter A. B., Stanford, 1913.	San Jose	C. E. gr.,	650 Delmas, SJ-sj
Hunt, Jessimine Mabelle	Corona	Engl. 25,	8 Alvarado
Hunt, Marcie	Corona	Graph. 77,	8 Alvarado
Hunt, Merritt G.	Boulder, Colo.	Chem. 77,	187 Bryant-p
Hunt, Randolph	Los Angeles	Econ. sp.,	Zeta Psi
Hunt, William Rowsell	Elko, Nev.	PreL. 8,	2 Lasuen
Hunter, Clarence Lester	Los Angeles	PreL. 6,	Theta Delta Chi
Huntington, Frances	Los Altos	Engl. 56,	Los Altos-l
Huntley, Harold R.	Ashland, Ore.	M. E. 11,	19 Lasuen
Hurd, Helen Josephine	Los Angeles	Engl. 93,	Pi Beta Phi
[1]Hurd, Joseph Duke A. B., Stanford, 1914.	SaltLakeCity,Utah	Law 120,	Encina
Hurlbut, Jesse Frank	Greeley, Colo.	Chem.,	18 Lasuen
Hurley, Cornelius Bert	Phoenix, Ariz.	Econ. 53,	Sigma Nu
Hurley, Morris Elmer	Albion	Germ. 72,	310 High-p
Huston, James Mallernee	Kobe, Japan	Phyl. †7,	904 Cowper-p

Hutchinson, Arthur John L. Palo Alto Chem. 9, Phi Kappa Psi
[1]Hutchinson, Edith May Los Angeles Hist. 123, Gamma Phi Beta
A. B., Stanford, 1914.
Hutchinson, James Sloan Palo Alto Econ. 43, 403 Kingsley-p
Hutchinson, Katharine Palo Alto Germ. 44, 403 Kingsley-p
[1]Huttman, Emil Henry Palo Alto Chem., 1026 Webster-p
[2]Huxtable, Howard Homer Campbell Econ. †, 98 Cypress, C-c
Hyatt, Victor Sacramento PreL. 52, 30 Encina
Ichihashi, Shizuko Sapporo, Japan Bot. 44, College Terrace-m
Ide, Corson William Los Angeles PreL. 43, 4 Lasuen
[2]Ingelow, George Carpenter Banning Hist. 90, 660 Waverley-p
Ingram, Wyatt Hawkins San Jose Math. 16, 718 Bryant-p
Inslee, Edward H. Kenwood, N. Y. Phys. 103, 437 Bryant-p
[1]Ireland, Florence Los Angeles Hist. 37, Gamma Phi Beta
Irwin, Clifton Minto Portland, Ore. C. E. 45, Chi Psi
Isakson, Carl Oscar Portland, Ore. C. E. 106, 115 Encina
[2]Jack, Julian Riette Glendale C. E. 111, Theta Delta Chi
[2]Jackson, Edna La Vone Boise, Idaho Engl. 106, Delta Delta Delta
Jacob, Lina Stella Palo Alto Germ. 107, 801 Middlefield-p
Jacomini, Gustave Adolph So. Pasadena M. E. 71, 134 Encina
Jameson, Bernice Corona Chem.-Med. 90, 63 Roble
Jameson, Carol Edna Corona Chem. 10, 62 Roble
Jameson, Emily Dean Corona Hist. 80, 62 Roble
Jameson, Irene Evelyn San Diego Hist. 108, Mariposa Club
[2]Jamieson, Roger Mills Spokane, Wn. PreL., Phi Kappa Psi
[1]Jaquins, Edward Art Riverside Econ., Theta Delta Chi
[1]Jardine, Robert Edward Hollywood Engl., Delta Kappa Epsilon
Jeffers, James Sterling Los Angeles C. E. 67, Delta Upsilon
[1]Jenkins, Hubert O. Palo Alto Med. gr., 750 Palo Alto-p
A. B., Stanford, 1907.
Jenkins, Leonard R. Ogden, Utah Med. gr., 2751 Clay, SF-sf
A. B., Stanford, 1913.
Jenkins, Olaf Pitt Nashville, Tenn. Geol. gr., Nashville, Tenn.
A. B., Stanford, 1913.
[1]Jensen, Hans Peter Selma PreL. 9, Mariposa Hotel-p
Jensen, Harold Lund Santa Cruz Med. †, 1833 Laguna, SF-sf
Jensen, Norman Ramsey Santa Monica PreL. 7, Sigma Nu
Jensen, Ray Carl James Fowler Germ. 40, 9 Salvatierra
Jepsen, Ada Elise Palo Alto Hist. 11, 1005 University-p
Jessup, Robert Junior Vincennes, Ind. Econ. 33, Phi Kappa Psi
Job, Martha Judith Mountain View Engl. 91, Mt. View-m

Johnson, Arthur Lockwood San Jose PreL. 53, 381 N. 13th, SJ-sj
Johnson, Charles Rodgers SanFrancisco C. E. 86, 10 Encina
Johnson, Frances Mary San Jose Engl. 100, 447 N. 2d, SJ-sj
[1]Johnson, Harry Adolph RedWing,Minn. M. E. 91, 611 Bryant-p
Johnson, Kathrina Boise, Idaho Engl. 31, KappaKappaGam.
Johnson, Rowland Bryant Redlands M. E. 108, 70 Encina
Johnston, Duncan McArthur Alameda Geol. 45, 75 Encina
Johnston, Earl T. CottonwoodFalls, Ks. PreL. 39, 18 Alvarado
Johnston, Faber Laine San Jose Law 118, SigmaAlphaEp.
Johnston, Frank Reed San Jose Phyl. 11, 130 S. 7th, SJ-sj
Johnston, Petra Beatrice Redwood City Germ. gr., Redwood City-r
A. B., Stanford, 1914.
Johnston, RichardLorimer SantaMonica PreL. 12, 4 Lasuen
Johnston, Walter Foster Everett, Wn. Econ. gr., 245 Ramona
A. B., Stanford, 1914.
[2]Jolly, Mabel Clare Los Angeles Zool. †, Alvarado Hall
Jones, Dorette Seattle, Wn. Germ. 106, GammaPhiBeta
Jones, Elton L. Cupertino M. E. 33, Cupertino-c
Jones, Henry Macy Los Angeles C. E. 8, Theta Delta Chi
Jones, James Walter Stanford Un. Chem. gr., Acacia
A. B., Stanford, 1913.
Jones, Leslie Bryant Cullen Elko, Nev. Econ. sp. 29, Kappa Sigma
[1]Jones, Perry Thomas Los Angeles PreL. 58, Sigma Chi
Jones, Philip Hanby Alhambra M. E. 14, 4 Salvatierra
Jones, Robert Alton Burlington, Vt. Med. gr., 1939 Clay,SF-sf
A. B., Stanford, 1908.
Jordan, Charles William Ouray, Colo. Geol. 37, Phi Delta Theta
Jordan, John Cuthbert Exeter Chem. 35, 405 Emerson-p
deJournel, Robert Burlingame Law 89, Phi Gamma Delta
Judah, Elizabeth M. Los Angeles Chem. 11, Alpha Phi
Kauffman, Karl Ferris Los Angeles C. E. 75, DeltaKappaEp.
Kaufman, Jewel Waldo Ceres PreL. 28, Faculty Club Hs.
[1]Kaufman, Leroy Cecil Oakdale Econ., Encina
Kauke, John Harold Exeter M. E. 36, 603 Waverley-p
Kawahara, John Yoshio San Francisco Econ. sp. 5, Japanese Club
[1]Kay, Edward W. San Jose Chem. 81, R F D 6, SJ-sj
Kay, Willard E., Jr, Ogden, Utah Med. gr., 2751 Clay, SF-sf
A. B., Stanford, 1912.
Keast, Fred Elton Lodi PreL. 41, Delta Chi
Keefer, Chauncey Tennent Los Angeles M. E. gr., Encina
A. B., Stanford, 1914.

Keeley, Helen	Dwight, Ill.	Educ. 71,	Pi Beta Phi
Keesling, Louis A.	San Jose	Ent. 91,	Sigma Nu
Kegley, Hugh Paul	Los Angeles	Econ. 8,	410 Lytton-p
Kelker, GeorgeDavid	GlenwoodSp., Colo.	Phyl. 77,	52 Encina
Keller, Arnold	Portland, Ore.	E. E. 92,	70 Encina
Kellogg, Benjamin B., Jr.	San Francisco	Hist. 27,	Kappa Alpha
Kellogg, Crawford McMann	Ontario	Chem. 47,	173 Encina
Kellogg, Lila Pierce	Los Angeles	Germ. 42,	12 Roble
Kennedy, ArthurG.	WeepingWater, Nev.	Engl. gr.,	1130 Bryant-p
A. B., Doane College, 1902; A. M., Nebraska, 1905.			
[2]Kennedy, ClarenceHamilton	Rockp't, Ind.	Ent. gr.,	718 Bryant-p
A. B., Indiana, 1902, A. M., 1903.			
[1]Kennedy, Margaret Lucretia	Modesto	Educ. 66,	573 Univ., SJ-sj
Kenney, Pearl Madeline	Palo Alto	Engl. 75,	177 Tasso-p
[1]Kerr, Luvenia	Dixon	Engl. gr.,	530 Lytton-p
A. B., College of Pacific, 1913.			
Kerr, Ruby Meta	San Jose	Hist. 7,	312 S. 9th, SJ-sj
Kester, Edgar Crossman	Everett, Wn.	PreL. 8,	Phi Delta Theta
Ketcham, Donald E.	Santa Maria	Chem. 8,	232 Hanover
Ketman, Mary Sophia	Palo Alto	Educ. 85,	650 Waverley-p
[1]Kiggens, Harold Stanford	Los Angeles	PreL.,	Phi Gamma Delta
[1]Kilcline, William Francis	San Mateo	PreL. 40,	132 Encina
Kile, Joseph Horton	Stockton	Econ. 109,	192 Encina
Kilgarif, Lester Martin	San Francisco	Econ. 7,	Alpha Tau Omega
Kimball, Elena Sophia	Eureka	Educ. 92,	48 Roble
[2]Kimber, John Evans	Palo Alto	PreL.,	173 Lytton-p
Kimura, Minnie Ruth	Palo Alto	Educ. 96,	917 Alma-p
King, Carol Klamm	Napa	Law †5,	Delta Tau Delta
King, Marion Reginald	Porterville	Ph.-Med. 107,	171 Emerson-p
King, Rachel	Portland, Ore.	Math. 101,	Delta Gamma
King, Vernon Leslie	Petaluma	Geol. 44,	49 Encina
Kingsbury, Jere Morrell	Los Angeles	C. E. 75,	704 Bryant-p
Kinnear, Leela Bessie	San Jose	Educ. 42,	431 N. 4th. SJ-sj
[2]Kinnear, Lloyd Sumner	San Jose	M. E. †,	431 N. 4th, SJ-sj
Kiser, Fay Wallace	Grants Pass, Ore.	Econ. 41,	119 Encina
Kistler, Ray Henry	Covina	Phyl. 74,	182 Encina
Kistler, Roy Emanuel	Covina	E. E. 86,	156 Encina
Kitagawa, Kay Jiro	Kioto, Japan	Ph.-Med. 102,	1047 Ramona-p
Knapp, Florence	Portland, Ore.	Econ. 12,	Pi Beta Phi
Knapp, James Russell D.	Aberdeen, Wn.	Phyl. 8,	549 Cowper-p
[2]Knapp, Meredith Elizabeth	Azusa	Hist. 92,	Langworthy Club

Knight, Courtland Whitney Pasadena Econ. 91, Phi Gamma Delta
Knollin, Ernesto Ray Auburn, N. Y. Educ. 108, 78 Encina
Knollin, Herbert Edward Stanford Un. Educ. gr., Madrono
A. B., Stanford, 1911.
Knox, Bertha Miles Palo Alto Graph. 43, 751 Channing-p
Knox, Nellie D. Palo Alto Hist. 75, 751 Channing-p
Koda, Kichio Palo Alto Phyl. sp. 11, 209 Homer-p
[1]Koeb, Otto Basel, Switzerland Germ. gr., 310 High
B. S., California, 1912; A. M., Stanford, 1914.
Koerner, Andrew Portland, Ore. Econ. 12, Kappa Sigma
Kohner, Oscar Santa Clara C. E. 24, 790Madison,SC-sc
Krehbiel, Paul Gerhard Reedley Hist. 44, 89 Encina
Kreps, Helen Katharine Palo Alto Germ. 70, 1129 Emerson-p
Kreps, Nora Elizabeth Palo Alto Econ. 65, 1129 Emerson-p
Krohn, Robert, Jr. Portland, Ore. Econ. 43, Kappa Sigma
[1]Kuhl, Carl Fleming Stockton Econ. 52, Sigma Nu
Kusama, Yoshio Nagano Ken, Japan Phyl. 42, 403 Kingsley-p
Kusunoki, Miyozo Palo Alto Hist. 101, 27 Salvatierra
Lachmund, Harry Gray Palo Alto Bot. 46, Alpha Tau Omega
Lachmund, Otto Gray Palo Alto PreL. 10, Bryant&Tennysn-p
La Fetra, Geraldine Ines Glendora Span. †8, KappaAlphaTheta
La Fetra, Gladys Adelaide Los Angeles Span. 58, Alpha Phi
Laine, Harry N. San Francisco Econ. sp. 31, SigmaAlphaEp.
Lake, Calvin Butler Lake Charles, La. M. E. sp. 1, 235 Emerson-p
Lamb, Norman Leslie Palo Alto Phil. 104, 855 Ramona-p
Lander, John Agustus Coalinga M. E. 11, 42 Encina
Landers, Marjorie Ella Bakersfield Germ. 104, Mariposa Club
Landreth, Harold Brooks Pasadena Law gr., Phi Gamma Delta
A. B., Occidental, 1912.
[2]Lane, Paul Vaux Van Nuys C. E. †, College Terrace
Lang, Louis Arthur San Jose E. E. sp. 97, 91 Lenzen, SJ-sj
Langlois, Edna Ritzville, Wn. Fr. 94, Alvarado Hall
La Peire, George Warren Palo Alto Geol. 46, 436 Hamilton-p
Larkin, Gail Carhart Los Angeles Law gr., Delta Chi
A. B., Stanford, 1912.
Larson, Wendell Everett Los Angeles Econ. 106, 195 Encina
[2]Laskey, Helen Frances Los Angeles Lat. †, Roble
[1]Later, Athol Eugene San Jose PreL. 3, 559 Cowper-p
Latshaw, Max Duluth, Minn. Chem. 66, 845 Waverley-p
Lawrence, George Louis Modesto Span. gr., Cardinal Club
A. B., Stanford, 1913.

Lawson, Iver Norman, Jr.	San Diego	M. E. sp. 8,	17 Salvatierra
Leaf, Edward Glenn	Porterville	PreL. 15,	4 Salvatierra
Leard, Frank Jacques	San Diego	PreL. 12,	Delta Chi
[2]Leavell, Mary Caroline	Phoenix, Ariz.	Hist. †,	Alvarado Hall
[1]LeClere, Walter Booth	Eagle Rock	Econ. 8,	559 Cowper-p
Ledyard, Helen Bell	Pasadena	Fr. 12,	KappaKappaGamma
[2]Lee, George Kim	Canton, China	Phyl. sp.,	318 Emerson-p
Lee, Gladys Margaret	Los Angeles	Span. 114,	4 Madrono
Lee, Margaret Gill	Spanish Fork, Utah	Engl. 90,	1100 Bryant-p
Lee, Naylor C.	Denver, Colo.	Geol. sp. 22,	Sigma Nu
Lee, Paul Frantz	Spanish Fork, Utah	M. E.,	Cowper & Tennyson
Lee, Russell Van A.	Spanish Fork, Utah	Chem. 25,	4 Salvatierra
Lee, Wah Seyle	Canton, China	Geol. 82,	318 Emerson
Leh, Clarke Franklin	San Jose	M. E. 14,	5 Lasuen
Leib, Karl Elias	Iron Mountain, Mont.	Law 91,	4 Encina
Leithold, Alice	Woodland	Econ. 104,	Delta Gamma
Leland, Percy Earl	Dixon, Ill.	PreL. 41,	Kappa Alpha
Lener, Kasper	San Jose	Law sp. unc.	128, San Jose-sj
[2]Leonard, Harry Morehouse B. C. L., Kings College, 1904.	Los Altos	Econ. gr.,	Los Altos-l
Leonard, Katherine	Los Angeles	Math. 12,	Alpha Phi
Lever, Lewis Ferdinand	Redlands	Law 51,	Phi Gamma Delta
Levy, Gaston Jack	San Mateo	Chem. 50,	619Laurel,SM-sm
[2]Levy, Germaine J.	San Mateo	Fr.,	619 Laurel, SM-sm
Levy, Harold Maurice	Reno, Nev.	Engl. 44,	30 Encina
Levy, Karl Riffle A. B., Stanford, 1913.	Los Angeles	Law gr.,	64 Encina
Lewis, Edna Branham	Pacific Grove	Graph. 84,	Mariposa Club
Lewis, Frances Mays	Escondido	Graph. 26,	319 Middlefield-p
Lewis, Howard Wesley	Los Angeles	M. E. 14,	68 Encina
Lewis, Lester Warren, Jr.	Edmonds, Wn.	Econ. 104,	Kappa Sigma
[1]Lewis, Walter Kinney	Riverside	Law 84,	183 Encina
Lewis, William David	Palo Alto	C. E. 106,	411 Waverley-p
[2]Liberman, Walter Ernest	Los Angeles	Law †,	2 Lasuen
Licking, WilliamE. Battle	Mountain, Nev.	PreL. 13,	661 Gilman-p
Likely, Robert Donald	Ukiah	M. E. 13,	College Terrace
Lillie, Ralph Dougal	Monterey	Phyl. 14,	196 Encina
[2]Lincoln, Arthur Gardner,	Langdon, Can.	Law sp.,	660 Waverley-p
[2]Linden, Charlotte Smith B. S., California, 1913.	San Francisco	Med. gr.,	1100 Dolores, SF-sf
Ling, Homer John	Oakdale	M. E. 70,	133 Encina

Linnane, Margaret Julia Des Moines, Ia. Engl. 103, Delta Gamma
Little, George Barnard Whittier C. E. sp. 53, Phi Kappa Psi
[1]Livengood, Frances M. Meyersdale, Pa. Engl. 120, Delta Delta Delta
A. B., Stanford, 1914.
Liversidge, Esther Serena Los Angeles Graph. 16, Alpha Phi
Locke, Lydia Margaret Los Angeles Engl. 74, KappaAlphaTheta
Lockwood, Roland M. Portland, Ore. PreL. 5, 17 Lasuen
Loder, Anna Lois Palo Alto Germ. 13, 426 Florence-p
Loepp, David F. Wagner, S. D. Law gr., 635 Bryant-p
A. B., Morningside College, 1911.
Logan, William Anthony Mayfield Law 122, Mayfield-m
Lonergan, Lester Joseph San Francisco PreL. 1, 19 Lasuen
Long, Crayton Winton Hayward Econ. 40, Delta Kappa Ep.
Long, Jean Ward Los Angeles Hist. 96, Delta Gamma
[1]Long, Lydia Hayward Hist. 121, Gamma Phi Beta
A. B., Stanford, 1914.
Long, Ruth Hayward Educ. 22, Gamma Phi Beta
Longmire, William Richard Highland Geol. 114, Sigma Nu
Looney, Frank Jennings Palo Alto Bot. 6, 416 Webster-p
[1]Looney, Jerry Thurman Palo Alto Law 50, 416 Webster-p
Lord, Walter Vincent So. Pasadena PreL. 8, 18 Alvarado
Lorraine, Ruth Sayre Paris, France Law 63, Gamma Phi Beta
Losh, William Jackson Mill Valley Econ. 9, Theta Delta Chi
Lotz, Cyril Clyde San Jose Law 126, 116 S. 9th, SJ-sj
Loucks, Charles Ernest Mt. View M. E. 9, Mountain View-m
Loud, Harold Lester St. Louis, Mo. Law gr., Beta Theta Pi
A. B., Southern California, 1913.
Lough, Herbert Melville Gr.Junc.,Colo. Econ. 108, 69 Encina
[1]Lovering, Gladys Laverne Findlay, Ohio Hist. 124, 65 Roble
A. B., Stanford, 1914.
Low, Apau Paul Honolulu, T. H. C. E. 126, 318 Emerson
Lowe, Jong Soo Oakland Econ. sp. 5, 410 Lytton-p
Lowell, Maude Alhambra Zool. 35, Gamma Phi Beta
Lucy, Harold San Francisco Chem. sp. 44, 251 Emerson-p
Lull, Linford C. Los Angeles E. E. gr., 828 Cowper
A. B., Stanford, 1913.
Lummis, Katharine Baltimore, Md. Lat. gr., College Pac., SJ-sj
A. B., Lawrence, 1890; A. B., Stanford, 1907.
Lyman, George Byron Yuba City Geol. 77, 166 Encina
Lyman, Grace Kingston, Ont., Can. Educ. gr., 40 Roble
Ph. B., Chicago, 1907.

Lyman, Timothy Eau Claire, Wis. Med. gr., 1888 Pine, SF-sf
A. B., Dartmouth, 1903.
*[1]Lynch, Ruby Moss Ames, Iowa Math. gr., Pi Beta Phi
B. S., Iowa State College, 1913.
Lynch, Windsor Chase Boise, Ida. Econ. 82, Cardinal Club
Lynn, Wright Andrew Hollister Phyl. 6, 23 Encina
Lyon, Percy Tufts Hollywood M. E. 31, Zeta Psi
Lyon, William Penn Eden Vale PreL. 6, 37 Encina
McAndrew, Alexander Nordhoff C. E. gr., Zeta Psi
A. B., Yale, 1913.
[2]McArthur, Margaret A. Los Angeles Hist. 31, Delta Delta Delta
McCarthy, Francis Justin San Francisco Med.†64, 2306Vallejo,SF-sf
A. B., St. Mary's, 1911.
McCarthy, Pearl Lydia Honolulu, T. H. Fr. 71, 52 Roble
[1]McCausland, Edward Galen Acampo Engl. 23, Sigma Nu
McChrystal, Arthur J. SaltLakeCity,U. Chem. 69, Sigma Chi
*Died, December 9, 1913.
McClain, Gwendolyn Stanford Univ. Engl. 30, 21 Salvatierra
[1]McClean, Harry Justus Long Beach PreL. †20, 635 Palo Alto-p
McCloskey, Paul Norton Salada Beach Law 73, DeltaKappaEpsil.
McClurg, VernerBlackmore LosAngeles C. E. 70, Phi Delta Theta
McColloch, Frank Cleveland Baker,Ore. PreL. 7, Kappa Sigma
McComb, Marshall Francis Los Angeles PreL. 10, Delta Chi
McConnel, Frederic J. Brisbane, Aust. M. E. 15, 661 Gilman-p
McConnel, Mary Emma Brisbane, Aust. Econ. 93, 661 Gilman-p
McCord, Emily E. Palo Alto Econ. 77, Langworthy
McCormack, Charles F. Spokane, Wn. C. E. 77, 55 Encina
[1]McCormack, May E. Tacoma, Wn. Engl. 120, Langworthy Club
A. B., Stanford, 1914.
McCoskey, Grace McMinnville, Ore. Med. gr., 2024 Sutter, SF-sf
B. S., McMinnville College, 1906.
McCoy, Margaret Lois Pasadena Engl. 67, Gamma Phi Beta
McCready, Harry Lewis Palo Alto C. E. sp. 142, 633 Channing-p
[2]McCreary, Laura May Hanford Engl., 30 Madrono
[1]McDaniel, Robert Levi Ogden, Utah Econ. 121, Encina
A. B., Stanford, 1914.
McDermott, Louis William Los Altos Graph. 5, Los Altos
McDonald, Ella Nancrede Pasadena Lat. gr., 28 Madrono
A. B., Stanford, 1914.
MacDougal, Alice Carmel Engl. 39, 84 Roble
McEuen, Albert Harry Los Angeles Geol. 7, Beta Theta Pi
McGilvray, Malcolm C. Stanford Un. Geol. 5, Escondita Cottage

McGonigle, Rose Vibiana Los Angeles Hist. 108, 36 Roble
McGovern, Anna Louise Palo Alto Hist. gr., 651 Channing-p
A. B., Stanford, 1912.
Machado, John Homen San Luis Obispo PreL. 48, 4 Lasuen
McHale, Myra Briggette Palo Alto Hist. 43, 727 Webster-p
McInerny, Arthur Jerome Los Angeles Econ. sp. 39, DeltaTauDelta
Macintyre, Arthur Donald Los Angeles C. E. 49, 100 Encina
McKay, George E. Ukiah C. E. 110, Encina
[2]McKee, Margery Tulare Hist., Alvarado Hall
McKee, Paul Boole San Francisco E. E. 115, ThetaDeltaChi
Mackel, James P. Los Angeles PreL. 7, Delta Chi
[1]McKendry, Ramona Palo Alto Hist. 120, 1035 Bryant-p
A. B., Stanford, 1914.
McKenna, John Shore Lemoore Geol. 39, Mountain View-m
Mackenzie, Andrew Nicholls Los Angeles Geol. 41, Acacia
McKim, Horton Albert Tonopah, Nev. M. E. 12, 526 University-p
McKinney, Verne Willson Palo Alto C. E. 89, 620 Waverley-p
[2]McKnight, Geraldine Pasadena Econ., Madrono
McKnight, Harold Metcalf Pasadena Econ. 111, DeltaKappaEp.
McLachlan, James Douglas Pasadena PreL. 8, Zeta Psi
[1]McLaughlin, Charles Porter Sacramento PreL. 35, Phi Delta Theta
McLaughlin, Dorothy Ball So. Pasadena Fr. 105, 30 Roble
[2]McLaughlin, Frances Palo Alto Graph. 46, Pi Beta Phi
McLean, Robert Clay Brevord, N. C. Phys. gr., College Terrace
B. S., North Carolina, 1912.
McLellan, Douglas Hull Hollywood C. E. 12, Sigma Nu
McMahon, Harry Eugene Pacific Grove Chem. 40, 4 Salvatierra
McManus, Joseph A. Anaconda, Mont. Chem. 36, 19 Lasuen
McMillan, Hazel May Fallbrook Hist. gr., 26 Roble
A. B., Stanford, 1913.
[1]McMillan, Percy Walton San Jose C. E. sp. 41, Sigma Nu
McMurray, William Robert Portland, Ore. PreL. 14, Kappa Sigma
McNabb, Mary Vera San Bernardino Engl. 71, Pi Beta Phi
McNair, Jerome Willis Palo Alto Lat. gr., 1227 Byron-p
A. B., Hamilton College, 1910.
McNeal, Thomas Carl Los Angeles C. E. 11, 156 Hamilton-p
McNulty, Hugh William Fresno Geol. sp. 9, SigmaAlphaEp.
Macomber, Forrest Devore IdaGrove, Ia. PreL. 40, Cardinal Club
McPheeters, George Carl H. Palo Alto Med. gr., Relief Hse, SF-sf
A. B., Stanford, 1910.
McPherron, Arnie Lilian Hollywood Engl. gr., 21 Salvatierra
A. B., Stanford, 1914.

McPherson, Kenneth Rees	San Jose	C. E. 72,	54 Settle, SJ-sj
Macrum, Natalie	Los Altos	Lat. 105,	Los Altos-l
Macy, Lloyd	Campbell	Chem. 46,	656 Channing-p
Mader, Constance Marie	Santa Rosa	Germ. 107,	207 Hawthorne-p
[1]Madison, Christine	Hayward	Math. 121,	Madrono
A. B., Stanford, 1914.			
Madison, Mottie Roger	Aberdeen, Wn.	Chem. 7,	549 Cowper
Maines, Harriett Elizabeth	Los Angeles	Lat. 75,	Alpha Omicron Pi
Maltby, Joseph McKinley	Long Beach	PreL. 45,	29 Encina
Manning, Paul DeVries	Salem, Ore.	Chem. 76,	25 Encina
Maple, Ray Cowser	Glasford, Ill.	Hist. †36,	Sigma Chi
Marich, William Daniel	Redding	E. E. 118,	106 Encina
Marino, Herbert Daniel	Stockton	Phyl. 5,	22 Lasuen
Marker, William Maxwell	La Mesa	C. E. 81,	Acacia
[1]Markley, Chandler Hamilton	San Jose	C. E. 76,	179 Encina
Marshall, James G.	White Plains, N. C.	Law unc. 120,	Acacia
Marshutz, Herbert Stanton	Los Angeles	Econ. 12,	107 Encina
Martel, Alfred, Jr.	Mountain View	Bot. 5,	Phi Kappa Psi
[2]Mathews, Margaret Mary	Eureka	Fr. 36,	Alvarado Hall
Matsushita, Sotaro	Los Angeles	Econ. 12,	733 Ramona-p
Mattei, Bert Chester	Los Olivos	Geol. 8,	Phi Delta Theta
Maurer, Loche Morton	Los Angeles	Econ. 110,	Kappa Alpha
Maurer, Rix	Alameda	M. E. 10,	Beta Theta Pi
Maury, Daniel Evans	Rossville, Ill.	Math. 16,	195 Encina
Maury, James Gernand	Denver, Colo.	M. E. 9,	195 Encina
Maxwell, Georgia Edith	Lemon Grove	Engl. 107,	5 Roble
Mayberry, John Newton	Antioch	Econ. 5,	5 Lasuen
Mayeda, Isamu	Chiba Ken, Japan	M. E. 47,	Japanese Club
[1]Meacham, Ray Alexander	Long Beach	PreL. 41,	Cardinal Club
Mead, James Enoch	Pasadena	PreL. 22,	Delta Upsilon
[2]Meginity, Mary Alma	Oakdale	Engl. gr.,	324 Emerson-p
A. B., College of Pacific, 1913.			
Meigs, John Jerrold, Jr.	Stockton	Law †4,	DeltaKappaEpsilon
Meinhard, Arthur R.	New York, N. Y.	Chem. sp. 36,	DeltaTauDelt.
Melcon, Zenas	Kingsburg	Geol. 13,	95 Encina
Melvin, Bradford Morse	San Francisco	PreL. 6,	251 Emerson-p
Mendenhall, GertrudeMary	Denver, Colo.	Graph. 46,	Pi Beta Phi
Merrill, Margaret P.	SaltLakeCity, Utah	Engl. †13,	Delta Gamma
[2]Metz, Dorothy A.	Sherman, Texas	Econ.,	5 Salvatierra
Meyer, Alfred Falck	San Francisco	Law 84,	168 Encina
Meyer, Charles Hillegas	Menlo Park	C. E. 45,	Menlo Park-m

[2]Meyer, William R.	Redwood City	M. E. †,	Redwood City-r
Meyerholz, Ivan Rheinier	Cupertino	C. E. 111,	Cupertino-c
[1]Mickle, John Lloyd	Centerville	Law 77,	Sigma Nu
Miebach, Philip J.	Lethbridge,Alb.,Can.	Econ. 79,	183 Encina
Millard, Bryant Tilden	San Jose	C. E. 7,	20 Encina
Miller, Clifton McPherson	Santa Cruz	Law 77,	Delta Tau Delta
[2]Miller, Elmer	Provo, Utah	Educ. gr.,	635 Bryant
A. B., Brigham Young, 1910.			
[2]Miller, Florence Anne	Pasadena	Engl. †,	Roble
Miller, Herbert Adams	Long Beach	PreL. 11,	Kappa Alpha
Miller, HermanPotts, Jr.	Harrisburg,Pa.	M. E. 14,	117 Encina
Miller, Horace Baker	Rivera	Econ. 37,	119 Encina
Miller, James Andrew	San Francisco	Law 89,	Acacia
[2]Miller, Mabel Alta	Dinuba	Engl. †,	638 Channing-p
[1]Miller, Robert Justin	Hanford	Law gr.,	Delta Chi
A. B., Stanford, 1911, J. D., 1914.			
Miller, Wayne Leslie	Palo Alto	PreL. 10,	580 Addison-p
Millett, George Wilber	Sunnyvale	Phyl.-Med. 103,	Sunnyvale-s
[2]Milliken, Carl Shields	Denver, Colo.	PreL. 32,	Phi Gamma Delta
[2]Mills, Sarah Matilda	National City	Engl. gr.,	Univ. Extension-p
A. B., Stanford, 1911.			
Mills, Zetta Mabel	Palo Alto	Hist. 41,	534 Forest-p
Millspaugh, Helen Howard	Hollywood	Graph. 90,	KappaAlphaTheta
Minton, Robert Coney	Mountain View	Bot. 6,	Mountain View-m
Missner, Frank R. S.	Lincoln	Phyl. 110,	Cardinal Club
[2]Mitamura, Matakichi	Hiroshima, Japan	Chem. sp. 14,	733 Ramona-p
Mitchel, Glen Henry	Los Angeles	Econ. 98,	Kappa Sigma
[2]Mitchell, Edwin Harvey	Palo Alto	M. E. 28,	130 Fulton
[1]Mitchell, Merle Ellsworth	Santa Rosa	Law gr.,	135 Encina
A. B., Stanford, 1912, J. D., 1914.			
Mittenthal, Norman Jerome	Fresno	M. E. 48,	Mariposa Hotel-p
Miwa, Suyehiko	Kumamoto, Japan	Econ. gr.,	Japanese Club
A. B., Waseda, 1910.			
Miwa, Tsusukichi	San Francisco	E. E. sp. 80,	Japanese Club
Moffatt, James Stanley	Birmingham,Ala.	Law gr.,	199 Encina
A. B., Chicago, 1912.			
Montague, Helene	Los Angeles	Hist. gr.,	Alpha Omicron Pi
A. B., Stanford, 1913.			
[2]Montgomery, Marion C.	Los Angeles	Hist. †,	5 Roble
Moore, Alice	Los Gatos	Engl. 34,	Alpha Omicron Pi
Moore, Charles Dunn	Ouray, Colo.	PreL. 27,	347 Alma-p

Moore, Fanny Caroline Olean, N. Y. Engl. gr., Alpha Phi
Ph. B., Syracuse, 1910.
[1]Moore, Maurice Mayfield Geol. 10, Mayfield
Moore, Neil Preston Palo Alto Chem. 100, 564 Hamilton-p
Moore, Sidney Fremont Monrovia Engl. 15, 12 Roble
[1]Moore, Virginia Los Gatos Hist. gr., AlphaOmicronPi
A. B., Stanford, 1912.
Moore, William Homer Selma Phyl. 75, 94 Encina
[2]More, Edwin Reynolds Rosedale, Wn. C. E. 44, Villa de Lagunita
Moreland, Walter James Oakland Phyl. 73, 151 Encina
Morelock, George Leslie Franklin, Tenn. Educ. gr., ManzanitaHall-p
A. B., University of South, 1913.
Morgan, ArthurLeonard CanonCity, Colo. M. E. †15, 183 Lytton-p
Morgan, Harry Joseph Los Angeles Geol. 103, 154 Encina
Morgan, Joseph Richardson Los Angeles Engl. 42, Kappa Alpha
Morgan, MauriceEdw. Bridgeport, Conn. Geol. 8, 235 Emerson-p
Morgan, May Gladys Canon City, Colo. Engl. 81, Mariposa Club
Morgan, William Irving Sonora Econ. 11, 54 Encina
Morin, Harriette Lucile San Francisco Bot. 110, 25 Roble
Morosco, Albert Harold San Diego PreL. 40, Delta Chi
[1]Morrow, Osborn B. Portland, Ore. M. E. sp. 56, SigmaAlphaEp.
Morse, Evelyn Lodi Hist. 108, Madrono
Morse, Genevieve Lodi Germ. 46, Alpha Omicron Pi
Morton, Frank Willard San Francisco Engl. 88, 22 Lasuen
Moses, Leon Forsyth, Mont. M. E. 12, 405 Emerson-p
[2]Mosher, Anita Allene Palo Alto Hist., 365 Channing-p
Mosher, Hugh Harold San Jose Chem. gr., , 140 Encina
A. B., Stanford, 1913.
[2]Moss, Harold Rae Sunnyvale Chem. 73, 800 University-p
Mott, Rodney Loomer San Jose Econ. 6, 507 S. 2d, SJ-sj
Moul, Charles Thomas Oakland Med. †47, 365 10thOakland-o
A. B., St. Mary's, 1911.
Moule, Manley Axtell Cleveland, Ohio M. E. 4, 148 Encina
Mudd, Seeley Greenleaf Los Angeles Chem. 12, Delta Tau Delta
Mukerji, Dhangopal Calcutta, India Phil. †7, 1066 Bryant
Mulford, Charles Roe Peoria, Ill. Econ. 72, Sigma Chi
Mullen, Edmond Williams Los Angeles M. E. †13, Zeta Psi
Mulock, Fred S. San Gabriel E. E. 85, 156 Encina
[2]Murphy, PeterFrankEdwards Hollister Phyl. 15, Sigma Chi
Murray, Alfred Conklin Woodland Law unc. 91, 116 Encina
Murray, Frederic Seymour Palo Alto Graph. 42, 1019 Bryant-p

Murray, George Harvey — Hanford — Law 86, — Sigma Nu
Murray, Robert Lindley — Palo Alto — Chem. gr., — 1019 Bryant-p
A. B., Stanford, 1913.
Murray, Virginia — San Gabriel — Phyl.-Med.88, — Kap.AlphaTh.
Myers, Jesse Lincoln — Toledo, Ohio — M. E. 11, — 11 Salvatierra
Myers, Ralph Cather — Bakersfield — C. E. 104, — 57 Encina
Nagel, Gunther W. — Palo Alto — Econ. 12, — 356 Addison-p
Nakamoto, Frank Yoshisuke — Tokyo, Japan — Econ. 6, — 733 Ramona-p
Nakamura, Yuichi — Yamaguchi, Japan — E. E. 109, — Japanese Club
Nakayama, Shonosuke — Tokio, Japan — Ent. 106, — 1a Alvarado
Nam, Ong Yet — San Francisco — Chem. 71, — 318 Emerson
[1]Narver, David Lee — Los Angeles — C. E. 120, — SigmaAlphaEp.
A. B., Stanford, 1914.
[2]Neal, Roland — San Jose — Chem.gr., 771 — Chapman, SJ-sj
A. B., Cornell College, 1904, A. M., 1907.
Needham, Roy Elwood — Tracy — PreL. 51, — Delta Chi
Neel, Beulah Jane — Ventura — Bot. 104, — KappaAlphaTheta
Neill, Ernest — San Mateo — E. E. 65, — Acacia
Neimeyer, Ruth K. — Duluth, Minn. — Econ. 76, — Gamma Phi Beta
Nelson, Axel Clarence E. — Victor, Colo. — Econ. †17, — Acacia
Nelson, Wilbur A. — Nashville, Tenn. — Geol. gr., — 4 Salvatierra
B. S., Vanderbilt, 1910.
Neth, Lena Rose — Middleton, Idaho — Lat. 106, — Delta Gamma
Newcastle, Charles C., Jr. — Portland, Ore. — PreL. 9, — Sigma Chi
Newcomer, Mabel — Palo Alto — Econ. gr., — 1015 Forest-p
A. B., Stanford, 1913.
Newman, Margaret Eliz. — Santa Barbara — Engl. 102, — Mariposa Club
Newnan, Eva May — Mountain View — Lat. 76, — Mountain View-m
Nichols, Bernard Charles — El Centro — Law gr., — 344 Pk Blvd, Mayfield
A. B., Stanford, 1900.
Nichols, C. Fenton — San Francisco — Law gr., — 158 Encina
A. B., Stanford, 1913.
Nicbel, Herbert Lee — Cleveland, O. — C. E. 106, — Phi Kappa Psi
[2]Niepp, Frederick Antone — Ukiah — E. E. 48, — 550 Kingsley-p
Niklason, Clarence R. — Audubon, Ia. — PreL. 13, — Cardinal Club
Nisbet, John McHenry — Upland — Geol. 44, — Theta Delta Chi
[2]Nix, Armin William — Stanford Un. — Chem. †, — 4 Salvatierra
Nixon, Carey H. — Onawa, Iowa — Geol. 71, — Delta Tau Delta
[1]Noble, Isabel Blake — Long Beach — Lat. gr., — Pi Beta Phi
A. B., Stanford, 1911.
Nolan, Frank L. — Palo Alto — Bot. 32, — 850 Ramona-p

Nomura, Hanji Kobe, Japan Engl. gr., 1445 Bryant
A. B., Stanford, 1914.
Noonan, JohnL., Jr. Glenwood Sps., Col. PreL. 12, 90 Encina
Noonan, WilliamF. Glenwood Sps., Col. Law 56, 90 Encina
Nordman, Bernhard Fred Sacramento PreL. 13, 1121 Bryant-p
North, Frances Cupertino Engl. 92, Cupertino-c
Norton, Bertha F. Rock Creek, Ida. Hist. 76, Mariposa Club
[2]Norton, Eleanor Long Beach Hist. †, Alvarado Hall
Norton, John Kelley Palo Alto Educ. 47, 642 Webster-p
Norton, Willis Sherwood Stockton C. E. 42, Sigma Alpha Ep.
Norviel, Scott LaMar Phoenix, Ariz. PreL. 7, Delta Chi
Nowell, Patterson Dana Tulare Law gr., 120 Encina
A. B., Stanford, 1913.
Null, George Wallace San Jose C. E. 110, 102 Encina
Nusbaum, Emanuel Rhodes Colton Grk. gr., 542 Cowper-p
A. B., Stanford, 1914.
Oaks, Ernest Lester Escondido M. E. 12, 319 Middlefield-p
Oberle, Eugene J. Neufchatel, Switz'ld. Fr. 47, 909 University
O'Brien, Ruth Hayes Sunnyvale Engl. 50, Delta Delta Delta
Obrikat, Edward Robert Alhambra C. E. 81, 143 Encina
O'Connell, Francis Anthony Mt. View Law 75, Mountain View-m
Odenheimer, Frances June Los Angeles Germ. 105, 243 Byron-p
Ogden, Laurence Armstead Bakersfield E. E. 65, Phi Delta Theta
Olcese, Elsie Agnes Merced Educ. 71, KappaKappaGam.
Oliver, Jean Redman Chico Med. gr., 1926 Octavia, SF-sf
A. B., Stanford, 1911.
Oliver, Myron Angelo Monterey Graph. 61, 159 Encina
Olmstead, Frank Osbun Los Angeles E. E. 79, Delta Upsilon
Olmsted, Raymond Albert Fresno M. E. 9, Theta Delta Chi
Olsen, Harry Palo Alto C. E. 73, 321 Fulton-p
Olsen, John Palo Alto Graph. 72, 321 Fulton-p
Olsen, Louis Palo Alto C. E. 108, 321 Fulton-p
[2]O'Neill, Paul Meyer Pasadena PreL. 27, Beta Theta Pi
Oppenheimer, Leon I. Spokane, Wn. Phyl. 117, Encina
Oppenheimer, Ruth Spokane, Wn. Chem. 40, DeltaDeltaDelta
[2]Organ, William Robert Palo Alto E. E. 32, 454 Forest-p
Orme, Charles Henry Phoenix, Ariz. PreL. 44, Delta Upsilon
Ostenberg, Zeno San Jose Chem. gr., 1568 Buchan. SF-sf
A. B., Stanford, 1913.
*[1]Otis, Richard Gaines Durango, Colo. C. E. 108, 559 Cowper-p

*Died, October 27, 1913.

Otto, Alfred Clay	Los Angeles	PreL. 7,	SigmaAlphaEpsil.
Overacker, Louise	St. Helena	Econ. 78,	53 Roble
[2]Overacker, Ray Howard	Palo Alto	PreL.,	227 Channing-p
Overman, Helen Doris	Santa Barbara	Bot. 57,	81 Roble
Owen, Ethel	Los Gatos	Phyl.-Med. 103,	45 Roble
[2]Owen, Richard Lewis	Palo Alto	Chem.,	151 Addison-p
[1]Owens, William Brownlee	San Jose	Law 104,	Delta Chi
Oyen, Ariadne Minerva	Everett, Wn.	Germ. 47,	DeltaDeltaDelta
[1]Oyen, Scipio Aristotle	Everett, Wn.	PreL. 55,	184 Encina
Oyster, Alfred Joseph	San Francisco	Econ. 33,	Delta Upsilon
Palm, Arthur William	Sacramento	PreL. sp. 40,	18 Alvarado
Papazian, Nerses P.	Constantinople, Tky	M. E. sp. 39,	245 Ramona
Parker, Bert Lynn	Mantua, Ohio	Educ. 33,	1350 Bryant-p
Parker, Herbert Colvin	San Bernardino	M. E. 13,	Sigma Chi
Parker, Nora Helen	San Bernardino	Engl. 80,	KappaAlphaTheta
Parkinson, Benoni Scofield	Palo Alto	Econ. 30,	1101 University-p
Parkinson, Mary	Los Angeles	Hist. 74,	Delta Gamma
Parkinson, Robert Roseberry	Palo Alto	Econ. 63,	1101 University-p
[2]Parsons, Clarence Wilbur	Coalinga	C. E.,	840 Bryant-p
Partridge, Joseph A.	Nampa, Ida.	Law 77,	111 Encina
Patten, James Longstreet LL. B., Southern California, 1913.	Los Angeles	Law unc. †12,	PhiGam.Delta
[1]Patterson, Lee	Portland, Ore.	Geol. 93,	Chi Psi
Patterson, Philip W.	Portland, Ore.	PreL.,	Chi Psi
[1]Paul, Chester Francis A. B., Stanford, 1913.	Palo Alto	Engl. gr.,	358 Homer
Paul, William Glae	Wickenburg, Ariz.	PreL. 44,	Delta Tau Delta
Paulsen, Jasper Wm., Jr.	Palo Alto	Geol. 31,	602 Waverley-p
Paulson, John Edwin A. B., Stanford, 1914.	Arco, Minn.	Med. gr.,	2320 Clay, SF-sf
Paulson, Myrtle Nina	Minneapolis,Minn.	Bot. 103,	Roble
Payne, Alan Edward	Morgan Hill	Educ. sp. 49,	77 Encina
Pearsall, Georgene A.	Des Moines, Ia.	Germ. 84,	Pi Beta Phi
Peck, Edward Lawrence A. B., Stanford, 1914.	Pasadena	M. E. gr.,	134 Encina
Peck, Gladys Amiel A. B., Stanford, 1911.	Pasadena	Lat. gr.,	Roble
Peck, Maybelle Claire	Compton	Graph. 16,	Alpha Phi
Peck, Sedley Clarendale A. B., Stanford, 1913.	Compton	Econ. gr.,	San Mateo-s
Peckham, Arthur B. A. B., Stanford, 1912.	San Jose	Geol. gr.,	74 N. 13th, SJ-sj

Peebles, James Ernest Salem, Ore. Law †6, 1134 Emerson-p
Peers, George Alexander Mayfield E. E. 62, Mayfield-m
Pellas, Silvius Frederick Granada, C.A. Geol. 106, Phi Kappa Psi
Perham, Philip D. B. Palo Alto Grk. 76, 335 Melville-p
Perry, Altha Kingman, Ariz. Law 88, Langworthy
Peters, Raymond A. Stanford Univ. Educ. sp. 34, 2 Lasuen
[2]Petersen, Walter Edward Santa Barbara E. E. 97, 154 Encina
Peterson, Edward Burke San Diego M. E. 12, Phi Delta Theta
Pettingill, Henry S. Jr. Los Angeles C. E. 9, Beta Theta Pi
Pettit, Albert Victor Hoquiam, Wn. Phyl. 68, 43 Encina
Pettit, Carl Hamilton Grinnell, Ia. M. E. gr., Acacia
B. S., Grinnell, 1913.
Pettit, Fred Eugene, Jr. Peabody, Kans. Law. gr., Phi Kappa Psi
A. B., Kansas, 1911.
Phares, John French Santa Rosa Bot. 57, Kappa Alpha
[1]Philippi, John Fred Los Angeles Geol. 65, Delta Kappa Ep.
[2]Phillips, Jonathan Edward Modesto PreL. 29, Delta Chi
Phillips, Raymond Millard Los Angeles Law 104, Acacia
Phillips, Wendell Keigh Portland, Ore. Law 54, Kappa Alpha
Pier, Arthur Bruno Los Angeles M. E. 36, Encina
Pier, Paul Albert Palo Alto Law 111, Delta Chi
[1]Pierce, Juliet Rich Los Angeles Engl. †60, 3 Lasuen
[1]Pierson, Myrtle Elizabeth San Jose Lat. gr., 112 S. 8th, SJ-sj
A. B., Western Reserve, 1901.
Pilipenko, V. I. Ekaterinoslave, Russia M. E. sp. 33, 1121 Bryant-p
Pingree, S. Earl Ogden, Utah Econ. 67, 170 Encina
Pioda, Alfred San Francisco Econ. 4, 19 Lasuen
Piper, Will Bruce Prescott, Ariz. C. E. 79 97 Encina
Pitcher, John Dudley Redwood City C. E. 7, Los Altos-l
Plummer, Edna San Jose Math. 108, 11 Roble
Poindexter, Emil Virginia Los Gatos Lat. 80, Alpha Omicron Pi
Popp, William Louis San Jose C. E. 9, 79 W. Sta. Clara, SJ
Porter, Durham W. New York, N. Y. C. E. 73, Sigma Chi
Porterfield, Wilson C. Silver City, N.M. Law 108, 60 Encina
[1]Post, Grace Pasadena Educ. 90, Pi Beta Phi
Powers, Mildred Sutherland Oroville Math. 112, KappaKappaGam.
Pratt, Anna Bertina Fallbrook Zool. 14, 66 Roble
Pratt, Eric Torrens Ontario Hist. 18, 180 Encina
Pratt, Eugene Elliot Ogden, Utah Law 70, 170 Encina
Pratt, Francis Sitwell Ontario Chem. gr., 178 Encina
A. B., Stanford, 1913.

Pratt, Helen Louise — Palo Alto — Zool. 87, 1121 Emerson-p
Preisker, William Henry — Palo Alto — Chem. 118, 581 Forest-p
Price, Francis — Palo Alto — Law gr., 181 Encina
A. B., Stanford, 1914.
Price, John Bertsch, Jr. — Hazleton, Pa. — Econ. 73, Phi Kappa Psi
Price, Merton James — San Francisco — Med. gr., 1015 Devisad.SF-sf
A. B., Stanford, 1913.
Price, Robert Morgan — Hazleton, Pa. — C. E. 13, Phi Kappa Psi
Price, Ruth — San Diego — Hist. gr., 64 Roble
A. B., Stanford, 1914.
Prien, Roland Henry — Morgan Hill — Phyl.-Med. †14, 251 Emers.-p
Pritchard, Walter Ferris — Colton — Phyl. 13, 194 Encina
[1]Proseus, Raymond Ward — San Jose — Geol. 3, 374 S. 10th, SJ-sj
Prout, Florence — Palo Alto — Fr. 75, Langworthy Club
Pruett, Harry Jeroam — Pomona — Med. gr., Kappa Alpha
A. B., Stanford, 1912.
Pruett, John Floyd — San Francisco — Med. gr., 2414½Sac.,SF-sf
A. B., Stanford, 1909.
Pyle, Kenneth — Gilroy — Geol. 118, 1327 Byron-p
Rainville, Felix Louis — Willows — Chem. 7, 4 Salvatierra
Rakestraw, Norris Watson — Lakeside, O. — Chem. 23, 4 Alvarado
Rathbun, Harry John — San Jose — M. E. 50, 439S.13th,SJ-sj
Rausch, Flora Marie — Oak Bluffs, Mass. — Grk. 100, 544 Byron-p
Ray, James Chandler — Palo Alto — Geol. gr., 1235 Webster-p
A. B., Stanford, 1914.
Ray, Ruth Mildred — Humboldt, Iowa — Engl. †, 650 Waverley-p
Rayburn, Irma Lois — San Jose — Educ. 39, Mariposa Club
Rea, James Harrold — Gilroy — C. E. 93, Chi Psi
Read, J. Marion — San Francisco — Med. gr., 1571 Fulton,SF-sf
B. S., California, 1912, M. S., 1913.
Reeder, Leland Parker — Ashland, Ore. — Econ. 76, Sigma Alpha Ep.
Reeves, Frank Wixon — San Bernardino — Geol. 79, Sigma Nu
Rehm, Francis Edward — Sonora — Geol. 75, 153 Encina
Rehmke, Anna Marie — Santa Barbara — Germ. 71, 667 Melville-p
Rehmke, Henrietta — Santa Barbara — Germ. 69, 667 Melville-p
Reid, Herman Lincoln — Berkeley — Econ. 109, Chi Psi
Reineman, LeRoy Foerster — Pasadena — Econ. 62, Sigma Nu
Reining, Charles — Davenport, Ia. — Germ. gr., 454 Forest-p
A. B., Stanford, 1908.
Reynolds, Lloyd Robinson — Upper Lake — Phyl. 75, 455 University-p
[1]Rice, Luther Gillespie — Muncie, Ind. — Chem. 15, 260 Homer-p

Rich, Willis Horton Los Angeles Zool. gr., University Park
B. S., Lombard, 1905; A. B., Stanford, 1909.
[2]Richards, Alva Mary San Jose Educ. †, 365 Vine, SJ-sj
Richards, Ralph Edward Hilo, H. T. E. E. 104, Acacia
Richardson, James Kemke SanFrancisco C. E. 15, Delta Kappa Ep.
Richdale, Jay Willard Santa Barbara C. E. 96, 155 Encina
[1]Richter, Margaret Rose Los Angeles Bot. 42, 11 Alvarado
Ridder, Harold Ferdinand Long Beach M. E. 10, 4 Lasuen
Rifenberick, William Lorenzo Palo Alto M. E. 7, 222 Byron-p
Riggins, Marie Long Beach Engl. 107, 8 Alvarado
[1]Riley, Robert Scales San Francisco M. E. sp. 29, Acacia
Ring, Sidney Harrison Portland, Ore. Hist. 45, 39 Encina
[1]Roberts, Frank K., Jr. Santa Cruz Econ. sp. 34, DeltaTauDelta
[2]Roberts, Helen Marjorie San Mateo Engl., 322 Bellevue, SM-sm
Roberts, Richard Evan Redlands Law 108, Phi Delta Theta
Robinson, Geroid Phoenix, Ariz. Hist. 9, 19 Lasuen
Robinson, Helen West San Francisco Engl. gr., 12 Madrono
A. B., Stanford, 1913.
[2]Robinson, Percy Mathew Portland,Ore. Econ., Phi Gamma Delta
Rockman, William Henry, Jr., Los Gatos M. E. 78, Los Gatos-l
Rodden, Mary Louise Oakdale Engl. 106, Langworthy Club
Rodig, Milton Theodore El Cajon E. E. 73, 750 Bryant-p
Rogers, Alice Marie Los Angeles Econ. 59, Delta Delta Delta
Rogers, Leslie Charles Ventura PreL. 10, 18 Alvarado
[2]Rogers, Ruth San Jose Engl. †, 49 Roble
Rollins, Warren King Los Angeles M. E. 13, 515 Waverley-p
Rose, Franklin Orth Santa Monica Bot. sp. 7, Sigma Nu
[1]Ross, Donald Stamford Los Angeles C. E. sp. 36, Beta Theta Pi
[2]Ross, Elmer Earl Wenatchee, Wn. Econ., 660 Waverley-p
Ross, George Paul Lakeview, Ore. Law 106, 260 Homer-p
Ross, James Madison Manila, P. I. PreL. 18, 251 Hawthorne-p
Ross, Stanley Palo Alto Geol. 37, 561 Middlefield-p
Roth, Earl Frederick Willits Phyl. 73, 105 Encina
Rouiller, Marcelle Henriette Palo Alto Fr. 71, 431 Channing-p
Rowe, Herbert C. Palo Alto Chem. 104, 235 Emerson-p
Rowell, Isabel San Jose Educ. 106, 48 Roble
Rowlands, Florence Irene Ogden, Utah Hist. 38, Alpha Phi
Roxburgh, Eileen Margaret Gilroy Engl. gr., 56 Roble
A. B., Stanford, 1913.
Roy, David G. Campbell PreL. sp. 18, Encina
Royden, George Taylor San Mateo M.E.12, 311 Ellsworth,SM-s

Russell, Beatrice Thelma — San Diego — Germ. 11, — DeltaDeltaDelta
[1]Russell, Francis Marion — Pasadena — Hist. gr., — 358 Homer-p
A. B., Stanford, 1912, A. M., 1913.
Russell, John Henry — Los Angeles — PreL. 11, — Phi Delta Theta
[1]Ryon, Harrison John — Charles City, Ia. — Law 74, — Sigma Chi
St. Martin, Willard — Carson, Wn. — PreL. 7, — 21 Lasuen
[2]Sadler, Anthony Wayne — Palo Alto — PreL. sp., — 305 Lytton-p
[2]Salomon, Edward — San Francisco — Med. gr., — 1634 Fell, SF-sf
B. S., California, 1913.
[1]Sanborn, Augustus Mudge — Redlands — M. E. gr., — Phi Delta Theta
A. B., Stanford, 1913, Engineer, 1914.
Sanborn, Morgan Allan — Benicia — Law 75, — Encina
Sandstrom,ArthurCharles — Portland,Or. — C. E. sp. 141, — 55 Encina
Sanford, Alice — Palo Alto — Phyl. 32, — 450 Kingsley-p
[2]Sanford, Burnett — Palo Alto — Phys. 76, — Phi Kappa Psi
Sanford, Carrie Isabel — San Francisco — Fr. 79, — Delta Delta Delta
[2]Sanford, Laura Maud — San Francisco — Fr., — Delta Delta Delta
[1]Sanger, George Norman — Lindsay — Phyl. 32, — 91 Encina
Sargent, Bradley V., Jr. — Salinas — Law †13, — Delta Upsilon
A. B., Santa Clara, 1913.
[2]Saunders, William Ewart — Fresno — Econ. †, — Delta Kappa Epsil.
Sawyer, Dwight Lewis — Gardena — Geol. 9, — 95 Encina
Saylor, Evelyn Jane — Portland, Ore. — Hist. 78, — DeltaDeltaDelta
Saylor, James Ray — Glasford, Ill. — M. E. †11, — Sigma Chi
[2]Sayre, Crystal — Tulare — Math., — Alvarado Hall
[1]Sayre, Marjorie A. — Tacoma, Wn. — Hist. 121, — AlphaOmicronPi
A. B., Stanford, 1914.
Schaupp, Karl Ludwig — Santa Rosa — Med. gr., — 2418 Wash.,SF-sf
A. B., Stanford, 1913.
Schellbach, Genevieve — San Jose — Engl. 85, — Mariposa Club
Schellbach, Mabel Louise — San Jose — Germ. 32, — Mariposa Club
Schempp,ChristyAdolph — Taunton,Mass. — Chem. 40, — 225 Addison-p
Schilling, Henry Joseph — San Jose — C. E. 113, — 536 S. 4th,SJ-sj
Schmidt,JohnJustus — E.LasVegas,N.M. — Econ. 103, — Chi Psi
Schnell, Eugene Andrew — Mayfield — Graph. 27, — 341 Columbia-m
Schofield, Frank Crain — Palo Alto — Educ. gr., — 730 Hamilton-p
A. B., Ohio, 1895; A. M., 1897.
Schofield, Martha Nickerson — Palo Alto — Educ. 91, — 730 Hamilton-p
Scholz, Carl Eugene — Campbell — M. E. 11, — 130 Encina
Scholz, Herbert Joseph — Campbell — E. E. 84, — 130 Encina
Scofield, Frank Alson — Dunnigan — Educ. gr., — 125 Encina
A. B., Stanford, 1913.

Scott, Caleb Emlen	San Mateo	Bot. 9,	San Mateo-s
Scott, Clyde Hans	Santa Barbara	C. E. 8,	8 Encina
Scott, Earl Theodore	Los Angeles	C. E. 115,	185 Encina
Scott, Walter Winthrop	Willits	Geol. 38,	105 Encina
Scovel, George Kenneth	Chadron, Nebr.	PreL. †8,	21 Encina
Sears, Harry Johnson	Kidder, Mo.	Chem. gr.,	707 Bryant-p
A. B., Stanford, 1911, A. M., 1913.			
Seeley, Ruth	Los Gatos	Chem. gr.,	59 Roble
A. B., Stanford, 1913.			
[1]Severin, Claude Louis	San Francisco	M. E. 8,	17 Salvatierra
Seward, Grace Elizabeth	Los Angeles	Graph. 11,	Delta Gamma
Seymour, Donald Irving	Sacramento	C. E. 75,	828 Cowper-p
Shamberger, Jacob Casper	Payette, Ida.	Lat. gr.,	232 Lytton-p
A. B., Western Maryland, 1904.			
Sharp, Edward William	Chico	C. E. 55,	81 Encina
Sharp, Sidney J. W.	Hanford	Law 105,	9 Encina
Shaw,CarlRaymond	SaltLakeCity,Utah	C. E. 105,	143 Encina
Shaw, Clarence Rupert	Boise, Idaho	Econ. 6,	1015 Forest
Shaw, Franklin Edw.	Lewiston, Ida.	Law 70,	Phi Gamma Delta
[1]Shaw, Ruth Edith	Santa Rosa	Math. gr.,	DeltaDeltaDelta
A. B., Stanford, 1912.			
Shea, Timothy Thomas	San Francisco	Med. gr.,	3753 17th, SF-sf
A. B., Stanford, 1914.			
[2]Sheehy, John Frederick	Watsonville	Econ.,	Phi Kappa Psi
[1]Sheldon, Jeremiah William	Gilroy	Bot. 79,	Encina
Sheldon, Katherine Anna	Palo Alto	Engl. 15,	851 University-p
Sheldon, Virgil Lee A. H.	Los Angeles	Law 52,	Chi Psi
Shelton, Ruth Casner	Los Angeles	Hist. 65,	Pi Beta Phi
Shepard, Joseph A.	SaltLakeCity,Utah	M. E. †14,	2 Lasuen
Shepardson, Dwight E.	Fullerton	Chem. 15,	194 Encina
Sheridan, Grace	Santa Barbara	Fr. 105,	Mariposa Club
Sherwin, Emery D.	Springfield,Mass.	C. E. 11,	Kappa Alpha
Shimodao, Saichi	Hilo, Hawaii	C. E. 44,	Japanese Club
Shipley, Ronald Gird	Fallbrook	M. E. 7,	4 Lasuen
Show, Ruth Katherine	Palo Alto	Educ. 93,	353 Melville-p
Shriver, Harold Dexter	Eureka, Utah	E. E. 63,	81 Encina
Shuttleworth, Vernis K.	IdahoFalls,Ida.	PreL. 44,	Pine Cottage
Sick, Emil G.	Lethbridge, Alb., Can.	Law 50,	161 Encina
[1]Sickler, Jack Miller	Pasadena	Geol. 58,	Zeta Psi
Siefert, Alfred Camille	Pasadena	Med. gr.,	2121Buchan.,SF-sf
A. B., Stanford, 1911.			

Siefert, Herman George	Pasadena	Chem. †6,	College Terrace
Siemon, Fred	Ontario	Geol. †33,	173 Encina
Sierk, Herbert	St. Louis, Mo.	Germ. 13,	18 Encina
Simon, Dorothy Janet	Butte, Mont.	Hist. 43,	Mariposa
Simonson, Stanley Stoddard	Merced	Econ. 71,	Delta Upsilon
[2]Simpson, Carolyn Elen	Palo Alto	Engl.,	176 Cowper-p
Simpson, Ralph Townsend	Pasadena	Geol. 22,	Beta Theta Pi
[2]Sinclair, Robert Augustus	PacificGrove	C. E. sp.,	Sigma Alpha Ep.
Single, Carroll John	Stockton	PreL. 13,	Zeta Psi
Single, Forrest Edwin	Stockton	Law 113,	Zeta Psi
Sisson, Wm. Frederick,	Flagstaff, Ariz.	Econ. 36,	Sigma Chi
Skelton, Leland Rice	Okmulgee, Okla.	Math. 16,	333 Waverley-p
[2]Skinner, Harvey Herbert	Easton	Bot.,	Easton-e
Skolfield, Wm. King	Portland, Ore.	E. E. 83,	145 Encina
Sloss, Louis, Jr.	San Francisco	M. E. 71,	168 Encina
Sloss, Mary Tamzen	San Jose	Econ. 74,	Pi Beta Phi
Slyfield, Emerson Upton	Los Angeles	Ent. 30,	Phi Kappa Psi
[1]Small, Irene Delta	Chico	Educ. 28,	24 Roble
Smiley, Frank Jason A. B., Stanford, 1913.	Fresno	Bot. gr.,	446 Hamilton-p
Smith, Andrew Mackay	Hollywood	M. E. 13,	Kappa Sigma
Smith, Callie Sutherland	La Crescenta	Hist. 102,	Delta Gamma
Smith, Corley F.	Okmulgee, Okla.	Econ. 2,	333 Waverley-p
Smith, Dorothea Louise	Campbell	Hist. 81,	53 Roble
Smith, Edgar Clarence A. B., Stanford, 1913.	Azusa	Law gr.,	141 Encina
[2]Smith, Edith Howard	Easton	Germ. 31,	Alvarado Hall
Smith, Elmer William A. B., Stanford, 1912.	Ferndale	Med. gr.,	2320 Clay,SF-sf
Smith, Harold Webster	Boise, Idaho	Econ. 6,	4 Lasuen
Smith, Harry James A. B., Stanford, 1912.	Ferndale	Med. gr.,	2320 Clay, SF-sf
[2]Smith, Jane Louise	Venice	Graph.,	Gamma Phi Beta
Smith, Jessie Edna	Redwood City	Fr. 48,	Redwood City-r
Smith, Leslie Gaines	San Jose	Educ. 96,	179 Park, SJ-sj
[2]Smith, Mary Morgan A. B., Vassar, 1910.	Los Gatos	Lat gr.,	Los Gatos-l
Smith, Mildred	Ferndale	Germ. 107,	34 Roble
Smith, Stanford Geary	Santa Cruz	PreL. 17,	Kappa Sigma
Smith, Talmage Laughner	Irwin, Pa.	Law 96,	96 Encina
Smith, Winthrop Sherwood	Stockton	C. E.,	21 Lasuen

Smitherum, Edgar	San Jose	C. E. †12,	177 Encina
Smithmeyer, Sophie A.	Lawrence,Kans.	Germ. 72,	Pi Beta Phi
Smithson, Frank E.	Ellensburg, Wn.	Econ. sp. 20,	Sigma Nu
[1]Smoot, Emma	Beaumont	Fr. 59,	Alpha Phi
Snell, Kenneth A.	Binalonan, P. I.	M. E. 14,	556Guerrero,SF-sf
[2]Snell, Lester William	Raton, N. M.	Geol. 72,	Encina
[2]Snyder, Elma Louise A. B., Lawrence, 1908.	Van Nuys	Germ. gr.,	52 Roble
Solon, Philip O.	Stoke-on-Trent, Engl.	Law sp. 9,	2 Lasuen
Sontheimer, Urban A. A. B., Stanford, 1912.	San Jose	Law gr.,	Acacia
[1]Soper, Harold Calhoun	Palo Alto	Geol. 48,	Phi Kappa Psi
Spalty, Anna Agatha	So. Pasadena	Fr. 36,	23 Madrono
Speed, William Patillo	Los Angeles	PreL.sp.7,	AlphaTauOmega
[1]Speer, James Beryl A. B., Montana, 1908.	Missoula, Mont.	Law gr.,	567 Lincoln-p
Spence, Homer Roberts A. B., Stanford, 1913.	Alameda	Law gr.,	Chi Psi
[2]Spence, Ruth	Salt Lake City, Utah	Engl. †,	Alvarado Hall
Spencer, Lawrence M.	San Francisco	Geol. 12,	Phi Kappa Psi
[1]Spinks, John Webb	Los Angeles	Law †5,	196 Encina
Squire, Caroline Elizabeth	Palo Alto	Germ. 107,	900 University-p
Squire, Ruth Hortense	Palo Alto	Engl. 15,	900 University-p
[1]Stadler, Marie Helena	Helena, Mont.	Chem. 64,	Langworthy Club
[2]Stafford, Walter Joseph	San Francisco	PreL.,	Zeta Psi
Stagg, Ira James	Anaconda, Mont.	PreL. 11,	19 Lasuen
[1]Stalder, Sydney Gordon	Riverside	Econ. 39,	Kappa Alpha
Stammer, Walter Henry	San Jose	Law 109,	Delta Chi
Standish, Allan Morgan	Oakland	Econ. 109,	Beta Theta Pi
Staniford, Warren Paul	Fresno	PreL. 46,	Sigma Chi
Stanley, Herbert M.	Palo Alto	Geol. 14,	269 Hawthorne-p
Stark, Anna Vaal	Palo Alto	Graph. 21,	1020 Ramona-p
Stark, Marguerite Dare	Palo Alto	Engl. 17,	1020 Ramona-p
Starnes, William Laurance	Exeter	M. E. 13,	195 Encina
Stearn, Allen Edwin	St. Louis, Mo.	Chem. 67,	80 Encina
Stearns, Edna Adele	Oakdale	Hist. 110,	Langworthy Club
Steele, Arthur Edward	San Francisco	Law sp., 11,	4 Lasuen
Steinhart, Stanley Albert	Santa Clara	E. E. 63,	190 Encina
Steininger, Alma Helen	Palo Alto	Graph. 11,	419 Webster-p
Steiny, Homer J.	Stockton	Geol. 40,	Zeta Psi
[1]Stendel, Dorothy Esther A. B., Stanford, 1914.	Los Angeles	Germ. 120,	38 Roble

[2]Stephens, Harmon Bross	Crete, Neb.	Econ. 104,	Cardinal Club
Stephenson, Hugh Chester	Alpine	M. E. 12,	750 Bryant-p
[2]Stevens, Blaine L.	Palo Alto	Ent.,	926 Cowper-p
Stevens, John Egbert B. S., Occidental, 1913.	Butte City	Med. gr.,	756 Bryant-p
Stevens, Lloyd C.	Graceville, Minn.	Law 69,	Phi Delta Theta
Stevick, Mary Ellen	Palo Alto	Econ. 30,	509 Hale-p
[1]Stevick, Nana	Palo Alto	Engl. 14,	509 Hale-p
Stewart, Clarence Edward	Stockton	C. E. 64,	904 Cowper-p
Stewart, Florence	Los Angeles	Hist. 41,	KappaAlphaTheta
Stewart, Geneva Grace	Stockton	Hist. 11,	Gamma Phi Beta
Stewart, Horace Vane	Denver, Colo.	PreL. 35,	Sigma Chi
[2]Stewart, John Thomas	Live Oak	Law,	Pine Cottage
Stewart, Lloyd Lincoln	Los Angeles	Chem. 128,	18 Alvarado
Stewart, Leo William	Boulder, Mont.	PreL. 4,	660 Waverley-p
Stidston, Russell Osborne A. B., Stanford, 1911, A. M., 1912.	Palo Alto	Engl. gr.,	757 Homer-p
Stillson, Grace Elizabeth	Palo Alto	Hist. 83,	451 Ruthven-p
Stinchfield, Roxana J.	College City	Bot. 48,	327 Emerson-p
[2]Stocklmeier, Adele Irmler	Cupertino	Graph.,	Cupertino-c
Stocklmeier, Louis	Cupertino	C. E. 49,	Cupertino-c
Stolz, Herbert Rowell A. B., Stanford, 1911.	Redlands	Med.gr.,	2414½Sacto.,SF-sf
Stone, Elizabeth	Hollywood	Hist.71,	KappaAlphaTheta
Stone, Herbert A. B., Stanford, 1914.	Palo Alto	Geol. gr.,	1229 Webster-p
Stone, Ruth	Hollywood	Math. 75,	KappaAlphaTheta
Storey, Chester Marshall	Waco, Tex.	Chem. 28,	5 Lasuen
[1]Storke, Arthur D.	Auburn, N. Y.	Geol. sp. 11,	559 Cowper-p
Strickler, John Philip A. B., Stanford, 1913.	San Diego	Med. gr.,	2418 Wash.,SF-sf
Strohauer, Frank George	Ottumwa, Ia.	Econ 105,	DeltaKappaEp.
Stuart, Archer Bell	Palo Alto	E. E. 70,	621 Gilman-p
Sudden, Anita Elenora	Ventura	Zool. 41,	Langworthy Club
Sullivan, Albert Patrick	Hollister	Phyl. 64,	153 Encina
Sullivan, Daniel Henry	Eureka, Utah	C. E. 5,	Encina
Sullivan, Mary Canice	Eureka, Utah	Engl. 108,	61 Roble
Sumioka, Shuichi	Stanford Un.	M. E. sp. 6,	14 Alvarado
Summerfield, Lester D. A. B., Stanford, 1912.	Reno, Nev.	Law gr.,	83 Encina
Sundstrom, Esther V. A. B., Bethany, 1906.	Lindsborg, Kans.	Engl. gr.,	11 Roble

Supple, Albert James	Alhambra	Phyl. 33,	106 Encina
Supple, Fred Edward	Alhambra	PreL. 10,	196 Encina
[1]Sutliff, Howard Donald	National City	Geol. 11,	4 Salvatierra
[1]Svenson, Arthur Edward	Los Angeles	Geol. 82,	Encina
Swabey, William Curtis	Palo Alto	Phil. 72,	825 University-p
Swain, Albert Free	Los Angeles	Ent. 86,	213 Emerson
[2]Swanholm, Carl S.	Boise, Idaho	Econ.,	660 Waverley-p
Swanson, Charles Raymond	Fresno	C. E. 104,	136 Encina
Swayne, Lloyd	Alameda	M. E. 84,	Kappa Sigma
[1]Sweeney, Raymond Joseph	Kelso, Wn.	Econ. †1,	PhiGammaDelta
Swett, Wilber Frank	Palo Alto	Phyl. 11,	1000 Forest-p
Swift, Faith A.	Santa Cruz	Zool. gr.,	639 Gilman-p
A. B., Stanford, 1912.			
Swigart, Theodore Earl	Oakland	C. E. 11,	38 Encina
Swing, Annie May	San Bernardino	Math. 109,	25 Roble
Swingle, Clarissa W.	Long Beach	Educ. 94,	22 Roble
[2]Swingle, E. Margaret	Long Beach	Span.,	22 Roble
[1]Symonds, Bessie Marjorie	San Jose	Educ. gr.,	194 S. 20th,SJ-sj
A. B., Stanford, 1909.			
Taff, Elizabeth Simonds	Palo Alto	Econ. 75,	628 Cowper-p
[1]Taggart, Kathrine	Los Angeles	Lat. 121,	Delta Gamma
A. B., Stanford, 1914.			
[2]Takanashi, Taka	Palo Alto	Engl.,	365 Lincoln-p
Takei, Toshimichi	YamanashiKen,Jap.	M. E. sp. 4,	Japanese Club
Takemura, Inshio	Naganoken, Japan	Econ. sp. 2,	733 Ramona-p
Talbert, Wilford Ebenezer	High Grove	Educ. gr.,	424 High
A. B., Stanford, 1913.			
[1]Talboy, Della Irene	Palo Alto	Lat. 120,	311 Middlefield-p
A. B., Stanford, 1914.			
Talboy, Irwin Whitfield	Palo Alto	Hist. 9,	311 Middlefield-p
Tatnall, Ashton R., Jr.	Redlands	M. E. 49,	18 Encina
Taylor, Agnes	West Chester, Pa.	Hist. 71,	705 Cowper-p
Taylor, Erna Gertrude	Los Angeles	Engl. 24,	AlphaOmicronPi
[1]Taylor, George Harvey	Selma	C. E. 41,	54 Encina
Tedford, Malcolm Edward	Santa Ana	PreL. 6,	Delta Upsilon
Templeton, John Wesley	Palo Alto	Chem. 11,	375 Everett-p
[1]Templeton, Ruric R.	Palo Alto	Geol. 50,	375 Everett-p
Terry, Zebulon A.	Los Angeles	Econ. 107,	Delta Tau Delta
Tew, Marian Muriel	Pasadena	Math. 80,	9 Roble
Thalheimer, Walter	Phoenix, Ariz.	Law 78,	134 Encina
Thoburn, James Harold	Palo Alto	Econ. 87,	Phi Delta Theta

[1]Thoburn, Wilbur William Palo Alto Econ. 59, Phi Delta Theta
Thomas, Earl Charles Portland, Ore. C. E. 108, 53 Encina
Thompson, Earl Clarence Riverside Econ. 4, 37 Encina
Thompson, Georgia Emily San Diego Med. gr., 2121 Buchan.,SF-sf
A. B., Stanford, 1911.
Thompson, Ione So. Pasadena Graph.14, KappaAlphaTheta
Thompson, Jean Highland Zool. 43, 20 Madrono
[1]Thompson, Mildred H. Buffalo, N. Y. Educ. 121, Langworthy Club
A. B., Stanford, 1914.
Thompson, Wm. Francis Everett, Wn. Zool. gr., 76 Encina
A. B., Stanford, 1911.
Thomson, Stanley Allan Menlo Park PreL. 3, Menlo Park-m
Thrasher, Herbert Maxwell Palo Alto M. E. sp. 13, 351 Homer-p
[1]Tiffany, Frank Gile Hollister Ent. 34, 94 Encina
Tilton, Lloyd Irvine Los Angeles Law 76, Delta Chi
Timmins, Claude Walter Fresno PreL. 43, 25 Salvatierra
Tincher, Eugene Earl Long Beach Law gr., Delta Chi
A. B., Stanford, 1913.
Tindall, Verne L. Stuttgart, Ark. M. E. 11, 235 Emerson-p
Tisdale, Marjorie Minnie Redlands Law 77, Delta Gamma
[1]Tissot, Thomas Paul San Francisco PreL. 5, Phi Gamma Delta
Titlow, Ione Marguerite Tacoma, Wn. Bot. 13, 11 Alvarado Hall
Tobin, Marie Gordon St. Louis, Mo. Hist. 76, KappaKappaGam.
Todd, Katherine Frances Oakland Phil. 92, Alvarado Hall
Tognazzini, Irene Amanda Cayucos Med. gr., 2318 Clay, SF-sf
A. B., Stanford, 1913.
Tolman, Chester A. San Francisco M. E. sp. 10, 19 Lasuen
Tomiyama, Setzo Kagawa-Ken, Jap. Hist. sp. 4, College Terrace
[2]Tompkins, Bernice Brooks San Jose Econ. †, KappaAlphaTheta
Topham, James Scott Washington,D.C. C.E.sp.134, 146Hawthorne-p
Townsend, Thomas Harold San Jose Geol. 21, Kappa Sigma
[1]Toy, Susan Maude Los Angeles Educ. gr., 147 Roble
A. B., Stanford, 1912.
Trace, Gertrude May San Jose Educ. gr., 730 Univ., SJ-sj
A. B., Stanford, 1914.
[1]Traphagen, Dorothy Altadena Graph.91, KappaAlphaTheta
Trent, Leonore Evelyn Los Angeles Engl. 86, Alpha Phi
Tsuzaki, Mitsuji Kumamotoken, Jap. Econ. sp. 133, 31 Salvatierra
Tuck, Joy Edwarda Redlands Fr. 9, 9 Roble
Tucker, Murray E. Muskogee, Okla. Chem. 12, 22 Lasuen
Tuffree, Samuel James Placentia PreL. 9, 22 Encina
Tufts, John Marshall San Francisco Phyl. 37, Phi Kappa Psi

Tulloch, Leslie Sutherland Kohala,H.T. Zool. 109, Mariposa Club
Tulloch, Martha Kohala, H. T. Hist. 111, Mariposa Club
Tully, Wilford Hamilton San Jose Law 95, 117 S. 17th,SJ-sj
Turner, Madeline MacC. San Francisco Hist. 39, KappaKappaGam.
Turner, Muriel Emily Palo Alto Math. 45, AlphaOmicronPi
[2]Turner, Thomas Norton Stanford Univ. Geol. 116, Sigma Alpha Ep.
[2]Tuthill, Gertrude San Jose Hist. †, 87 S. 13th, SJ-sj
[1]Tuttle, Ruth Claire Watsonville Germ. 121 Langworthy Club
A. B., Stanford, 1914.
[1]Tuttle, Winnifred Mary Pacific Grove Chem. 42, 64 Roble
[2]Twohy, Philip Joseph San Jose PreL. †, San Jose-sj
[1]Twombly, Margaret Marie Stanford Un. Phyl. gr., Mariposa Club
A. B., Stanford, 1912.
Tyler, Susan Clark San Diego Germ. 108, Mariposa Club
Uhls,KennethBenton OverlandPark,Ks. Phyl. 24, 232 Lytton
Ulery, Lucile Bernice Los Angeles Engl. 97, Alpha Phi
Ulrich, Knox S. New Rochelle, N. Y. M. E. 4, 620 Waverley-p
Unangst, Edwin Walter SanLuisObispo Engl. 76, 35 Encina
Urban, Joseph Charles Hamilton City Geol. 36, Sigma Alpha Ep.
Vail, Arthur Jacob Palo Alto E. E. 84, 333 Channing-p
Vail, Helen Palo Alto Econ. 107, 24 Roble
Valentine, Jean Mae Los Angeles Engl. 107, KappaKappaGam.
[2]Van Dellen, Elzo L. Palo Alto Educ. gr., 756 Bryant-p
A. B., Denver, 1904, A. M., 1906; LL. B., Northwestern, 1910.
VandenBraak, Gail So. Pasadena C. E. 7, Delta Upsilon
Vanderburg, Chester Marion Madera Ph.-Med.102, 660Waverley-p
Vandervort, Charles Thomas SantaCruz Math. 35, 260 Homer-p
Van Etten, Ilza Katrine Palo Alto Hist. 82, 465 Hawthorne-p
Van Sicklen, William J. Palo Alto Chem. gr., 347 Ramona-p
A. B., Stanford, 1912, A. M., 1913.
Vaughan, Marion Melinda Los Angeles Hist. 30, Delta Delta Delta
Veale, Mortimer Belshaw Martinez PreL. 12, 4 Salvatierra
Venard, Isabel Palo Alto Fr. gr., 436 Lytton-p
A. B., Smith, 1909.
Venard, William John Palo Alto Econ. †12, 436 Lytton-p
Vickery, Robert Kingston Saratoga Ent. sp. 45, Saratoga
Vigars, Ernest Powell Portland, Ore. C. E. sp. 49, 24 Encina
[1]Virmani, Devi D. Bahawalpore, India Chem. gr., 245 Ramona-p
A. B., Stanford, 1913.
[1]Volkmor, Mary Hilda Whittier Math. gr., Mariposa Club
A. B., Stanford, 1913.
Voris, Katherine Los Angeles Hist. 102, DeltaDeltaDelta

Vrang, Christion M.	Dawson, Can.	Geol.sp.100, SigmaAlphaEp.
Vrang, Minna C.	Dawson, Can.	Zool. 23, AlphaOmicronPi
Wagner, Hubert Hudson	San Jose	C. E. 110, 142 Encina
Waite, Howard Edgerly	Riverside	C. E. 10, 2 Encina
Wakefield, Cecil Ray	Fresno	PreL. 39, Delta Chi
Walker, Harold Nelson	Spokane, Wn.	E. E. 104, 325 Alma-p
Walker, Leland Harrison	Los Gatos	Law gr., Los Gatos-l
A. B., Stanford, 1912.		
Walker, Sidney Carr	Holton, Kan.	Econ. 58, 11 Salvatierra
[1]Wall, Helen Reiff	San Francisco	Germ. 25, Alpha Phi
[1]Wall, Kathryn Reiff	San Francisco	Germ. 15, Alpha Phi
Wallace, Helen	Visalia	Hist. 66, Kappa Kappa Gam.
[2]Waller, Lawrence Waite	San Francisco	Econ., Sigma Nu
Walls, Eleanor Prescott	Los Angeles	Hist. 84, Delta Gamma
Walters, J. Earl	Wynola	Chem. 85, 19 Encina
Ward, Butler Etter	San Diego	E. E. 115, Kappa Alpha
Ward, Martin Luther, Jr.	San Diego	Law gr., 122 Encina
A. B., Stanford, 1912.		
[2]Ward, Newman	Portland, Ore.	Geol. 79, 810 Univ., Mayfield
Waring, Clarence A.	Mayfield	Geol. gr., Mayfield-m
A. B., Stanford, 1911, A. M., 1914.		
Warren, Lansing	Los Angeles	Engl. 13, 22 Lasuen
[1]Warren, Marie	Bakersfield	Zool. 41, Alpha Omicron Pi
Warren, William Halford	Glendora	M. E. 85, 145 Encina
[1]Washburn, Henry Lord	San Jose	Bot. 71, 102 Encina
[2]Wason, Thomas Frederick	Santa Paula	C. E. 63 Encina
Watanabe, Walter	San Francisco	Chem. gr., Japanese Club
A. B., Stanford, 1914.		
Waterhouse, Mills Nettleton	Saratoga	Engl. sp. 35, 9 Cabrillo
Waters, Ernest Gilbert	San Francisco	C. E. 53, 65 Encina
Waters, Roy Norton	San Francisco	Bot. 8, Pine Cottage
Watkins, Fred Bradshaw	Los Angeles	Chem. 104, 185 Encina
Waud, Joyce Emily	Ventura	Bot.106, KappaKappaGam.
Weatherford, Harold L.	Chicago, Ill.	Zool. 43, 78 Encina
[2]Weaver, Clarence Eugene	Tulare	Zool., 4 Salvatierra
Weaver, William Irwin	Turlock	Chem. gr., 183 Lytton
A. B., Stanford, 1913.		
[2]Webb, Florence Lisle	Los Angeles	Engl. †, 5 Roble
Webb, Morgan Chofield	Merced	Hist. 31, 656 Bryant-p
Weber, Harold Davis	Los Angeles	Geol. 7, 21 Encina
Weeks, James Paschal	Red Bluff	C. E. 107, 405 Kipling-p
[2]Weiss, Rosa	San Francisco	Phyl. gr., 46 Roble
B. L., California, 1910.		

Welin, Albert Fabian Berkeley Med. gr., 2032 Shattuck,B-b
B. S., California, 1912.
Wells, Agnes Booth Oakland Hist. 75, Langworthy Club
Welsh, Orel Alvin Oregon City, Ore. Med.gr., 2418 Wash.,SF-sf
A. B., Oregon, 1910.
[2]Wemra, Seitarow San Francisco M. E., College Terrace
Wenzel, Robert Nicolas St. Louis, Mo. Chem. 61, 51 Encina
West, Howard Frank Los Angeles Med. gr., 1939 Clay, SF-sf
A. B., Stanford, 1912.
West, Z. Bertrand Santa Ana PreL. 13, 22 Encina
Weston, Clinton Byron Patterson Law 77, 5 Lasuen
Wetmore, Clyde T. Hollister Med. gr., 1100Jackson,SF-sf
A. B., Stanford, 1913.
Weymouth, Frank W. Stanford Univ. Zool. gr., College Terrace
A. B., Stanford, 1909, A. M., 1911.
Wheatly, Winston R. Los Angeles Econ. 10, Kappa Sigma
[2]Wheeler,Chas.Edward Milwaukee,Wis. Geol. †, 193 Encina
Wheeler, Elizabeth Mayo San Jose Hist. gr., 15 Madrono
A. B., Stanford, 1914.
Wheeler, Francis F. Milwaukee, Wis. Econ. 80, 193 Encina
Whipple, Horton Burlingame C. E. 28, 132 Encina
Whipple, Stephen K., Jr. Burlingame C. E. 117, 132 Encina
Whitaker, Ralph W. Lebanon, Ind. C. E. 129, Delta Upsilon
White, Fred Ferrell Marion, Ill. PreL. 34, Cardinal Club
White, Hazel May Burlingame Chem. 71, DeltaDeltaDelta
White, Lewis Edmund Redding M. E. 12, 28 Encina
White, Walter T. Portland, Ore. Educ. 79, 1a Alvarado
Whiting, GeorgeNathaniel SanFrancisco PreL. 11, Alpha Tau Omega
[1]Whitted, James Herbert San Dimas Geol. 37, Phi Gamma Delta
Whitten, Lester Clark Spokane, Wn. PreL. 39, Delta Tau Delta
Wickersham, Newton W. Los Angeles Geol. 54, Kappa-Sigma
Wilcox, Lorene San Francisco Educ. 26, Gamma Phi Beta
[2]Wilcox, Robert Wm. Delta, Colo. Med. gr., Encina
A. B., Stanford, 1913.
[2]Wildman, Esther Theresa Philadelphia Hist. †, 16 Madrono
[2]Wilkie,LonnieHouston DawsonSpgs,Ky. Engl., 22 Lasuen
Wilkins, Earl Brander San Francisco PreL. 10, Phi Gamma Delta
Wilkins, Robert E. Des Moines, Ia. Econ. 7, Delta Tau Delta
Will, Elsa Barbara Rochester, N. Y. Med. gr., 2015 Sacra., SF-sf
A. B., Stanford, 1913.
[2]Willard, Orville Leonard Los Angeles PreL., 4 Lasuen
Williams, Ben Charles Los Angeles C. E. 32, Alpha Tau Omega

Williams, Buford — Vinita, Okla. — Econ. 42, — 7 Encina
Williams, Carl Francis — Los Angeles — M. E. 68, — The Armory
Williams, Edle Carlina — Gustine — Graph. 105, — 639 Gilman-p
Williams, Ernest Elias — San Jose — PreL. 10, — 347 S. 12,SJ-sj
Williams, J. Harold — Ainsworth, Nebr. — Educ. gr., — 11 Salvatierra
A. B., Stanford, 1913.
[1]Williams, Mary Wilhelmine — Gustine — Hist. gr., — 639 Gilman-p
A. B., Stanford, 1907, A. M., 1908, Ph. D., 1914.
Williams, Paul Langdon — Los Angeles — Econ. 6, — Cardinal Club
Williamson, Helen Lucile — Sebastopol — Phyl. 12, — 566 Everett-p
Willimann, Edwin — Menlo Park — Engl. sp. 34, — Menlo Park-m
[1]Willis, Wade — Clarendon, Texas — Law sp. 8, — 426 Homer-p
Wilson, David H. — Roseburg, Ore. — M. E. 18, — 40 Encina
Wilson, George Osborne — Saratoga — E. E. 120, — 101 Encina
Wilson, Paul R. — Bandon, Ore. — PreL. sp. 38, — 126 Encina
Winans, Henry Morgan — Denver, Colo. — Engl. 37, — 5 Lasuen
Wines, Blaine L. — Ruby Valley, Nev. — PreL. 45, — Sigma Alpha Ep.
Wing, Sumner Paddock — Palo Alto — C. E. 121, — 345 Lincoln-p
Wing, Winchester Paddock — Palo Alto — Bot. 35, — 345 Lincoln-p
Winn, Vera Lutitia — Palo Alto — Grk. 83, — 1102 Ramona-p
Winslow, Ola Elizabeth — Santa Clara — Engl. gr., — 610Monroe;SC-sc
A. B., Stanford, 1906.
Wise, John Hamilton — San Rafael — Econ. sp. 9, — Sigma Nu
Wiseman, Alta Echo — Pixley — Phys. gr., — Langworthy Club
A. B., Stanford, 1912.
Wishard, Helen L. — Mountain View — Engl. gr., — 5 Madrono
A. B., Stanford, 1913.
Withey, Hettie Alice — Palo Alto — Hist. gr., — 3 Salvatierra
A. B., Stanford, 1913.
Wolcott, Clifton E. — San Francisco — Econ. 76, — Encina
Wolcott, Herbert Betts — Carthage, Mo. — Econ. 87, — Sigma Chi
Wolf, Leslie Milton — San Diego — Geol. 8, — Phi Kappa Psi
Wolford, Edwin Byron — Oakland — M. E. sp. 45, — Sigma Nu
Wollaston, Charles Hyde — Santa Ana — C. E. 116, — 7 Encina
Wong, Ralph Buckland — Canton, China — C. E. 61, — 318 Emerson-p
Wood, Anna Margaret — Escondido — Hist. 50, — 26 Madrono
Wood, Arthur Rollit — Saratoga — Econ. 52, — 159 Encina
[2]Wood, Grace Mary — Mayfield — Fr. †, — Mayfield-m
Wood, Harry Reynolds — Los Angeles — Engl. 86, — Phi Kappa Psi
Wood, Jacqueline — Seattle, Wn. — Hist. 63, — Alpha Omicron Pi
Wood, James Vincent — Pacific Grove — Econ. 44, — 18 Alvarado
Wood, Jessie Ida — Mayfield — Bot. 82, — Mayfield-m

Wood, John Clarence — Santa Cruz — PreL. 34, — 46 Encina
Wood, W. Welcome — Interior, S. D. — Med., 2015 Buchanan, SF-sf
B. S., Huron, 1909.
Woodworth, Arthur W. — Tonopah, Nev. — M. E. 30, — 110 Encina
Woolley, James Earl — Santa Rosa — Law 146, — 11 Encina
Workman, Thomas E. — Los Angeles — Geol. 65, — Beta Theta Pi
Wormser, Paul — San Francisco — E. E. 62, — 65 Encina
Worth, Frederick N. — San Francisco — Econ. 39, — Cardinal Club
[1]Worthington, Robert Strong — Alameda — C. E. 120, — 185 Encina
A. B., Stanford, 1914.
Worthy, Arthur Edwin — Santa Ana — Law 78, — 191 Encina
Worthy, Elmer Thomas — Santa Ana — Law 108, — 23 Encina
Wright, Catherine Louise — Pasadena — Rom.Lang.8, — KappaKappaG
Wright, Ernest Neall, Jr., — Pasadena — Geol. 47, — PhiGammaDelta
Wright, Faye — Hanford — Hist. 10, — 8 Roble
Wright, Howard Walter — Pasadena — Law 53, — Beta Theta Pi
Wright, Irving Leroy — Clio, Iowa — Educ. 100, — 411 Waverley-p
Wuesthoff, Herbert C. — Milwaukee, Wis. — PreL. 11, — Delta Tau Delta
Wyckoff, Harry Alphonso — Palo Alto — Med. gr., — 342 Homer-p
A. B., Stanford, 1907.
[2]Wylie, James Thomas — Auckland, N. Z. — Geol. sp., — Sigma Alpha Ep.
Wyman, Eleanor McKee — Fillmore — Grk. 101, — Mariposa Club
Wynne, Arthur William — San Anselmo — Engl. 80, — 129 Encina
Yager, John Edgar — Sacramento — M. E. 97, — 44 Encina
Yamada, Sozaburo — Sendai, Japan — Phyl. 61, — Japanese Club
Yewell, Paul Rideout — Los Angeles — C. E. 6, — Cardinal Club
[1]Yim, Bing Jue — Canton, China — Chem. 22, — 318 Emerson
[1]Yoch, Agnes Cecilia — Santa Ana — Span. gr., — Alvarado Hall
A. B., Stanford, 1913.
Yoder, Olive Lillian — Los Angeles — Hist. 43, — Delta Delta Delta
Young, Alfred Turner — Fort Jones — Phyl. 32, — Theta Delta Chi
[2]Young, Celeste Langdon — Stockton — Hist. †, — Alvarado Hall
[1]Young, Frank Herbert — Fort Jones — Econ. gr., — Theta Delta Chi
A. B., Stanford, 1913.
Young, Mary Frances — Hollywood — Germ. 44, — 32 Roble
Young, Stanley Colin — San Jose — Law 150, — 122 Encina
Zacharias, George W. — Harper, Kans. — C. E. 5, — Delta Upsilon
Zeidler, Richard — Campbell — Educ. gr., — Campbell-c
Ph. B., Wisconsin, 1906; M. L., California, 1912.
Zimmerman, Howard — Salem, Ore. — Law gr., — Pine Cottage
A. B., Oregon, 1913.
Ziser, George J. — Los Angeles — Chem. 77, — Encina
Zvenigorodsky, Abraham — New York, N.Y. — Hist. 37, — 1329 Waverley

SUMMARIES

Officers

Trustees	15	
Business Administration	23	38
Academic Council—rank of		
Emeritus Professor	1	
Professor	61	
Associate Professor	30	
Assistant Professor	29	121
Other Teaching and Administrative Officers—rank of		
Emeritus Professor	2	
Clinical Professor	8	
Clinical Associate Professor	4	
Assistant Professor	16	
Lecturer	3	
Teaching Instructor	57	
Non-Teaching Instructor	15	105
Departmental Assistants:		
Teaching Assistants	135	
Administrative Assistants	52	187
		451

Students

	1st Sem.	2d Sem.	For Year
Graduates	217	215	264
Candidates for Degree of A. M.	100		
Candidates for Degree of Engineer	16		
Candidates for Degree of J. D.	39		
Candidates for Degree of M. D.	46		
Candidates for Degree of Ph. D.	23		
Other Graduate Students	40		
Undergraduates	1451	1414	1548
Special Students	87	83	94
Total	1755	1712	1906

Summer Registration	38	
Less names already counted	28	10
Total for the year (including Summer Registration)		1916

By Major Subjects

	Graduate	Undergrad.	Special	Total
Greek	2	8	1	11
Latin	14	13	—	27
Germanic Languages	7	51	—	58
Romanic Languages	5	36	—	41
English	26	110	4	140
Psychology	1	—	—	1
Philosophy	—	6	—	6
Education	19	50	2	71
History	17	126	1	144
Economics	11	186	14	211
Law	39	109	10	158
Pre-Legal Course	—	165	5	170
Graphic Art	1	44	1	46
Mathematics	5	28	—	33
Applied Mathematics	1	—	—	1
Physics	6	4	—	10
Chemistry	21	76	5	102
Botany	2	29	3	34
Physiology and Histology	5	75	4	84
Anatomy	—	—	—	—
Bacteriology	1	—	—	1
Zoology	6	25	—	31
Entomology	2	13	1	16
Geology and Mining	13	86	9	108
Civil Engineering	6	142	14	162
Mechanical Engineering	6	112	16	134
Electrical Engineering	2	45	3	50
Medicine	*48	†25	1	74

By Residence, for the year

California	1,383
Other states	473
Foreign countries	50
Total	1,906

*Also registered as Physiology Majors, 2.
†Also registered as Physiology Majors, 15; as Chemistry Majors 1.

ALUMNI ASSOCIATION

[Organized June 15, 1892]

CONSTITUTION

(As amended May, 1908)

IN order to promote the interests of the University, to secure unity among its graduates, and to foster an attachment to our *Alma Mater*, we do hereby constitute ourselves an association to be known as the Alumni Association of the Leland Stanford Junior University.

I. MEMBERSHIP

1. All persons who have received a degree from the Leland Stanford Junior University are members of this Association.

2. All members of the Faculty are honorary members of this Association.

II. OFFICERS

1. The officers of this Association shall be: (1) a President; (2) one Vice-President for each successive group of five classes (provided that when the last group shall number three classes it shall thereafter be entitled to a Vice-President); (3) a Secretary-Treasurer; (4) an Executive Committee consisting of the Secretary-Treasurer and four other elected members, one of whom shall be designated as Chairman, but the President shall not be a member of the Committee; and (5) an Advisory Board, consisting of the President, one representative elected by the graduating class for the term of one year, and nine elected members who shall be graduates of five years' standing, and who shall be elected for three year terms. . . . The Advisory Board shall elect its President and Secretary.

2. All other officers shall serve for one year or until their successors are elected.

III. DUTIES OF OFFICERS

1. It shall be the duty of the President to preside at all business meetings of the Association, to deliver the President's address on Alumni Day, and to perform such other duties as usually belong to his office.

2. It shall be the duty of the Vice-Presidents, in the order of seniority of their groups, to preside in the absence of the President and to perform the other duties belonging to his office.

3. It shall be the duty of the Secretary-Treasurer to keep accurate minutes of the meetings of the Association and to act as Secretary of the Executive Committee, of which he shall be a member.

4. It shall also be the duty of the Secretary-Treasurer to have charge of the collection and disbursement of the funds of the Association.

5. The Secretary-Treasurer shall be allowed ten per cent of all dues or assessments collected, as compensation for his services.

6. It shall be the duty of the Executive Committee to arrange for the program to be presented on Alumni Day; or any programme for other public occasions; to regulate the finances of the Association; to perform such other duties as may be imposed upon it; and to attend to all business of the Association not otherwise provided for.

7. It shall be the duty of the Advisory Board, when deemed advisable, to consult alumni, undergraduates, faculty, and trustees, and to make recommendations regarding the welfare of the University and of the Alumni Association.

IV. COMMITTEES

1. The President shall be ex-officio a member of all Committees, except the Executive Committee.

2. At each annual business meeting the President shall appoint a committee of two persons to audit the Treasurer's accounts.

V. ELECTIONS

1. The February issue of the *Alumnus* shall give notice of the annual nomination and election of officers of this Association. Said notice shall contain the names of the incumbent officers and shall indicate the hold-over members of the Advisory Board, and shall contain in full the provisions of this Constitution relating to nominations and elections.

2. Nominations in writing, signed by at least twenty members, shall be required for any nomination. Nominations shall be forwarded to the Secretary-Treasurer between the first day of February and the first day of April of each year. On or before the fifteenth day of April of each year, the Secretary-Treasurer shall mail to every member of this Association, whose address he knows, an official ballot containing all the nominations, with the addresses of the nominees and the number of proposers of each, and said ballot shall be published in the May issue of the *Alumnus*.

3. Officers shall be elected at an annual election to be held at Stanford University on Alumni Day, between the hours of nine o'clock A.M., and twelve o'clock noon. The Executive Committee shall have charge of the election. The elector may cast a written ballot in person,

or by mail addressed to the Secretary-Treasurer, marked "Ballot" and disclosing the sender's name, and enclosing a ballot in a plain envelope. Ballots so received shall be opened and cast only during the hours of election. The respective candidates receiving the highest number of votes shall be declared elected. A tie vote shall be decided by lot.

4. No one whose annual dues are in arrears for the current year shall be entitled to vote or to hold office.

VI. DUES

The dues of the Association shall be $1.25 per year for each member thereof, which amount shall include a subscription to the *Alumnus*.

Provided, however, that all members who, prior to May 1908, have paid $5.00 shall be exempted from further dues.

VII. MEETINGS

Meetings of the Association may be called by the President or by petition of twenty members, said meetings to be held at Stanford University.

VIII. AMENDMENTS

Any proposition to alter or amend these Articles of Association must be proposed in writing, signed by twenty members, and submitted to the members by mail in printed form by the Secretary-Treasurer, and voted upon in the same manner as are nominations for officers, and adopted by a majority vote.

OFFICERS OF THE ASSOCIATION, 1913-14

President—GEORGE EDWARD CROTHERS, '95.

Vice-Presidents—FREDERICK ALLEN COOLEY, '92; DAVID EWALD BROWN, '97; ARION SIEGFRIED KALENBORN, '03; EDITH RONALD MIRRIELEES, '06.

Secretary-Treasurer—JOHN EZRA MCDOWELL, '00.

Executive Committee—ALMON EDWARD ROTH, '09, Chairman; ROY PARMELEE MCLAUGHLIN, '02; GILBERT DENISON BOALT, '03; ALFRED LOCKWOOD TROWBRIDGE, '06; JOHN EZRA MCDOWELL, '00.

Advisory Board—NEWTON CLEVELAND, '99, President; BENJAMIN FRANKLIN BLEDSOE, '96; FRED LESLIE BERRY, '99; MARY ISHBEL LOCKEY, '02; WILLIAM WESTLEY GUTH, '95; LESTER JESSE HINSDALE, '95; JOHN THOMAS NOURSE, '00; MAY HURLBURT SMITH, '02; ARTHUR WARREN AMBROSE, '14; GEORGE EDWARD CROTHERS, '95; JOHN EZRA MCDOWELL, '00; LELAND WHITMAN CUTLER, '06, Secretary.

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